

# THE AMERICAN AGRICULTURIST.



Agriculture is the most healthful, the most useful, and the most noble employment of Man.—*Washington.*

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## TO EXCHANGE PAPERS.

WHEN anything appears in these which is designed to attract our attention, we wish it conspicuously marked with ink lines, and the paper folded up with the article outside, so that it will instantly meet our eye. We do not often open, much more read, one in twenty of our exchanges; for we have not the time to do so, and if articles hereafter are not marked and folded as directed, it will not be our fault if they remain unnoticed.

## WEEDS.

Now is an excellent time to destroy weeds, as the rankest and most pernicious of them are in flower, and you thus prevent their seeding your own and neighbors' land. If cut down close to the ground in full bloom, some kinds will be totally destroyed; others will not rise again that year, or if they do, so feebly as to do little injury, and there is no danger of scarce any running to seed. The most effectual means which we have found to destroy the hardier weeds, such as mulleins, thistles, burdocks, &c., is to place half a table-spoonful of salt upon each stem immediately after being cut close to the ground. If there be a great number, after mowing them, scatter salt plentifully upon

the land, pasture sheep there, and they will most invariably be destroyed in a season or two. The salt acts beneficially with the sheep-dung in enriching the land. To increase the feed, plaster may be sown at the rate of  $1\frac{1}{2}$  to  $2\frac{1}{2}$  bushels per acre.

## PLASTER NO LONGER BENEFICIAL.

WHEN in Putnam county, and other places the past month, we heard complaints among the farmers that gypsum (plaster of Paris) no longer acted beneficially upon their land. The reason of this is thus explained by Leibig:—

“When we increase the crop of grass in a meadow by means of gypsum, we remove a greater quantity of potash with the hay than can under the same circumstances be restored—hence it happens, that after the lapse of several years, the crops of grass on the meadows manured with gypsum diminish, owing to the deficiency of potash.”

From the above extract it will be seen that nothing is wanted but the application of ashes or potash to the land, when plaster will again act upon it with its former good effects. Plaster will also be found beneficial again after manures have been used for a few years, more especially when made of an intermixture of swamp-muck or peat-earth.

## FARM OF MR. CLIFT.

THIS farm contains 300 acres, and is situated on the south side of the town of Carmel, in Putnam county, about 14 miles east of Peekskill landing, on the Hudson. In common with most of the land in that part of Putnam, it is broken and rough, and abounds with ledges of rock and loose stones. Such a country as this is particularly agreeable to one fond of the wild and picturesque; but to the farmer of rich alluvial plains, the idea of ever cultivating it would seem somewhat appalling—a thing to be talked about rather than performed. Yet cultivated it is, and in good style too, and what is most surprising to him who first takes a cursory view of the country, it is done at a handsome profit. The stone on the surface is usually not more than sufficient for the requisite fences, and when these are picked up and laid into walls, the land is clear enough for plowing; it is then got into grass as soon as possible, by a proper rotation of crops, and thus allowed by the best farmers to remain. The average yield of grass may be estimated at about two tons to the acre, some perhaps as high as three tons during the whole season. The grass is prevented from running out by the use of plaster, or ashes, and an occasional top-dressing of barn-yard manure, or peat and swamp composts. When the turf becomes somewhat hard and “bound out” as the term is, a fine harrow is passed over it early in the spring, a small quantity of grass-seed is sowed upon the surface, the top-dressing applied, and then rolled smooth with a wooden roller. The land also is occasionally varied from mowing to pasture, and so *vice versa*, or is first mowed and then partially pastured. By such management the farmers of Putnam, and indeed of most of the other counties in this vicinity, where the land is rocky and broken, keep it constantly in grass and good heart, reserving the smoother and more easily worked sections for their root and grain-crops. They raise very few cattle here, usually marketing their calves, and depending upon purchasing steers from 3 to 5 years old of the western drovers, principally in the months of March and April. These they keep till grass-fat, which is from August to November, and then dispose of them to the butchers of this city. Being so near the market they are daily advised of prices, and can thus always sell to most advantage. Some of the farmers assured us that their land would support a beast to each acre; but as we saw much which would require at least three acres for an animal, we suppose it would be safer to allow two acres for each steer during the eight months of feeding. The gain during this time is estimated at from \$10 to \$20 per head, according to circumstances; allowing it to be \$13 to \$14 on the average, and the land worth from \$30 to \$60 per acre, it requiring so little labor to manage the stock, the farmer gets a handsome return on his investment; and with this system of grazing and consuming all he raises upon the land, he is constantly enriching and improving it.

When Mr. Clift came on to his farm 30 years ago, the buildings were few and mean; scarce a good fence upon it; the upland covered with stone, and the lowland with swamps and bushes. His

improvements have been gradual, but thorough and permanent, and the farm is now under a high state of cultivation and presents a very fine appearance.

As many places as we are in the habit of visiting, it would be tedious to our readers to describe over again in each farm such things as are in common; we shall therefore confine ourselves to those improvements we have not noticed elsewhere.

*Ditches.*—In ditching swamps Mr. Clift has contrived to have these run generally where he wanted his fence. They are usually dug two feet deep and four feet wide, and filled up with round stones to the surface, and the wall then carried up four to five feet high. Thus he absorbs all the stone upon the land, and the water finds its way through the bottom of the wall to the open courses. The drain is of a gentle slope, the bottom consequently never gullies; neither can it fill up between the stone by the wash of the soil, and being sunk below the frost it is always open even in the severest weather.

*Walls.*—These are very thick, and instead of being laid up all the way double, every other course is a large stone placed across the whole width, and when finished they are capped by a flat stone as wide as the wall. Made in this manner they settle evenly and last a long time. In building these, whenever it was possible, he has laid them up along the banks of rivulets, and finds that they stand better so than when no stream runs with their line.

*Irrigation.*—This Mr. Clift intends to pursue to some extent, by making dams across the rivulets and open places at convenient distances, and sink a flume in each dam with a gateway in it. He can thus turn the water back upon the swamps which he has formed into dry meadows any time that irrigation may be of service to them. We have very little idea as yet in the United States of the value of water-meadows, and how easily they may be formed, and the products upon them doubled or even quadrupled. Under head of Tour in England, No. 8, Vol. I., page 231, we discussed this subject at length; it is therefore unnecessary for us to dwell further upon it at present.

*Hay.*—It is well known that grass which grows upon stony land is much sweeter and more nutritious than that produced upon a rich, smooth soil. That of Putnam county is therefore particularly valuable, and, ton for ton, will make at least 25 per cent. more beef or mutton than such as is grown upon plains. Mr. Clift says his best hay is made from the grasses which come in naturally, such as white clover and blue grass. He cocks it early in the afternoon of the day it is cut, lets it stand till the next day to go through the sweating process, and then puts it in his barn, sprinkling four quarts of salt to each ton, as it is stowed away. If unusually green, he mixes a little drier hay with it, or puts a dry load on the top of the mow or stack; in this way the excessive moisture will be absorbed. He prefers quite a tight covered barn to one more open to put his greenest hay in, closes the doors and windows, and finds that it thus keeps best. This is contrary to all previous practice known to us; we had supposed that a stack, or



rather open barn was best for housing green hay. Mr. Clift's are as tight covered as a house. This hay comes out very green and sweet in the winter, and is so nutritious that it will fat sheep as well as grass, and without any other food whatever. But it must be recollected that the sheep are of a *fine breed*, and not the coarse long-legged riff-raff of the country.

**Buildings.**—The house is in plain cottage style, extremely neat, and just the thing for a farmer. We think large mansions quite out of place on a farm, and that too much money is often invested in these to the great regret afterward of the persons erecting them. A farmer's pride should not be displayed in a costly house, but rather in improvements upon his land, and in his stock, and growing large crops. The grounds about the house are prettily planted with trees; the garden is ample and well stocked with fruit and vegetables. The outbuildings, such as the dairy and ice-house, are all convenient and well made. The corn-crib stands 2½ feet from the ground, upon stone posts, with wide stone caps upon them, rendering it quite impossible for mice or rats to get in. The barns are admirably constructed. They are built upon the side of a hill; the upper story is of wood, and is used for storing the hay and grain; the lower story is devoted to stabling, and a cellar for roots. The stables open into yards exposed to the south. We are great advocates of underground stables; they are cooler in summer and warmer in winter than those above ground, and where the soil is a dry one they never suffer from dampness. Water is introduced into these by pipes from springs above, and also into the yards, a very great convenience and comfort which is too often neglected by our farmers. The cellar-walls are furrowed out by scantling six inches thick and lathed. This keeps the roots from touching them and imbibing moisture, which spreads and rots, or causes them to grow. The mangers face the windows, with an alley between for foddering. Mr. Clift preferring that the animals' heads should be to the light: each one has a stable to itself, and remains there unfastened—a wheelbarrow is used to carry out their manure. The under stories of the sheep-barns are fitted up with racks and troughs, and have a moveable front which is closed in storms or very severe weather. Water is also constantly supplied in their yards, for Mr. C. finds from long experience, that this is as necessary for sheep as for any other kind of stock. Turning the poor animals on to snow for their drink is a cruel method, and often the cause of disease and death. The sheep-barns and smaller buildings are thatched with rye-straw. It makes a cooler roof for summer, and warmer in winter, is impervious to rain, is cheaper than shingles, and will last 20 years. Such roofs are quite common all about New York, they are also used for stack-coverings.

**Orchard.**—Formerly 400 to 600 barrels of cider were annually made on this farm; now, only a very few, just enough for vinegar, the residue of the apples being fed to the stock.

**Stock.**—Mr. Clift has been celebrated for some time for his superior flock of long-woolled sheep, embracing the best crosses of the Leicester and

Cotswold. He gave an excellent account of these (page 183 of our June number), which supercedes the necessity of our dwelling upon them at much length. We inspected these animals closely, in their naked forms just after shearing, and we must confess that we think them among the choicest flocks of the country. They are very *evenly* and *finely* bred, maintaining a striking family likeness throughout. One meets with no great incongruities here, such as coarse heads, ears, and legs, and big paunch bellies. The heads are not only fine, but *dished*, a point we think much of. The briskets are wide, deep, and projecting; the backs broad and rounding; and the quarters well let down and full. Since the introduction of the manufacture of *mousseline de laine* among us, long wool is quite in demand. It is full 40 per cent. higher than last year, and now pays the sheep-master well. Growing wool is henceforth destined to be a profitable business. We were surprised to see how easily these sheep are kept. They get fat on quite short pasture, among the rocks and hills; indeed, three are well supported on the same space of ground, where two of the coarse, long-legged sheep of the country will scarce obtain a living. Crosses of them on the common sheep make large thrifty animals, maturing early, and are in good demand for mutton in this market. Mr. Clift breeds for sale, and considering the superiority of his flock, and the expense he has been at in rearing it, his prices are moderate, and within the compass of any farmer desiring such stock.

The swine are a cross of the Berkshire on a good-sized white hog, imported some time since from England, and resembling the *Grazier*. The white color now predominates among this stock. The pigs are generally well formed and thrifty, mature reasonably early, and grow to a good size. They pervade in all the river counties.

The cows are nearly all a cross of the Durham or the Devon, and are selected for their dairy qualities. We found two good native milkers here, indicating no trace of a recent foreign cross. Mr. Clift showed us two pairs of formidable stags, a high cross of the Durham. They are extraordinary animals in the yoke, and we should like to see those who are prejudiced against this cross for working-oxen, outmatch them with any other breed.

We called upon Judge Watts, Mr. Fuller, and several other farmers of Putnam and Westchester counties, nearly all of whom follow the system of grazing cattle. It was a great satisfaction to see their fine herds ankle-deep in rich grass pastures, which one might judge they were turning into meat and tallow at a profitable rate. We were so much pleased with our short excursion in these fine counties, that it is our intention to repeat it as soon as possible at more length. Whatever may be said to the contrary, the improvements here for the past 20 years have been great, and they are still progressing; more especially such as ditching and draining, husbanding and applying manures, and keeping the land in grass, or giving it a fair rotation of crops; fences, farm buildings, &c. We regret to say that Putnam has not yet formed an Agricultural Society. It is to be hoped that the

good effects of the forthcoming show of that of the State Society at Poughkeepsie, will convince the people here of the importance and utility of these institutions.

#### THE EGG-HATCHER.

SEVERAL months ago we informed our readers, that a machine called the Eccaleobion or Egg-Hatcher, was in operation in this city for the purpose of producing chickens by artificial means; we wished, however, to see it thoroughly tested before drawing public attention to it, so as to avoid the too common imputation of hastily commending what might after all prove more curious than useful. The feasibility of hatching eggs by this machine is no longer doubtful, and the operation is not only safely performed, but we are convinced that chickens can be produced and reared by artificial means, with more *certainly* and *cheaper* than in the *natural* way; and that a wooden box not over 4 feet square, with a single person to attend it, and the expenditure of a shilling's worth of charcoal per week, will hatch out more eggs in a year than an army of ONE THOUSAND old hens! If any of our readers are credulous now upon this subject, let them call at 285 Broadway, and Mr. Mickles, the gentlemanly and intelligent manager of the operation, will soon convince them that the half has not been told. We shall now proceed to a description which we make up almost entirely from the pamphlet of Mr. Mickles, and conversations that we had with him on the subject.

*Description of the Ec-call'-e-o-bi'-on.*—The name or title of this machine, is derived from two Greek words, *Εκκαλίο*, "I bring forth," and *Βίος*, "life,"—forming the compound eccaleobion, signifying "I bring forth life."

The eccaleobion or life-producing machine, forms, to outward appearance, an oblong box, 4 feet 6 inches long, 3 feet 8 inches high, and 3 feet 6 inches wide. It stands out from and is disconnected with the walls of the room, and its efficient action and regulative powers are enclosed within the case. It contains nearly one thousand eggs, and is divided into eight compartments, or divisions, open to the sight, (the doors being glazed,) in which the eggs are deposited, spread promiscuously upon the floor of each division. The eggs lie uncovered, neither wrapped in flannel nor immersed in sand, as has usually been done, in order that they might retain their warmth when exposed to cold, or resist the effects of too great heat.

For the first few hours after their liberation from the shell, they are left in the drawer where hatched till they become dry and gain strength enough to stand well, after which they are removed to another drawer where the temperature is a little lower. Here they are kept for a day or so, by which time being strong enough to run about, they are removed into the little box-yard surrounding the machine. Under this they find shelter any time they please, as warm and grateful as the covering of the wings of a hen. They now require to be carefully fed and tended for two or three days, after which, revelling in the luxury

of their new existence, they may be seen running about the floor of their apartment, and proper means being used, neither require nor feel the loss of that care which, in all other cases, a maternal parent only can bestow.

Birds in a healthy condition require no aid to effect their escape from the shell; accomplishing their freedom themselves in a remarkably uniform manner, making a circular fracture with their bill, and bursting the integuments of the shell by strong muscular exertion.

Few eggs, except those of rare or foreign birds, are worth the trial of hatching, if more than a month old; their condition, however, is greatly influenced by the weather—very hot weather destroying vitality in a few days.

This machine does not, as is frequently the case with eggs set upon by the parent bird, ever addle them. This evil is occasioned by the alternation of heat and cold, arising from the hen's unsteady sitting. The warmth imparted by the machine is uniform and continued.

Failures, however, arise from the following causes, viz: want of impregnation in the egg; age, commonly called staleness, whereby life has become extinct; weakness of the vital energy of the egg, produced by old age, lowness of keep, or ill health of the parent; in these cases, the embryo partially develops itself, but dies before the full period of incubation.

Eggs may be hatched by other means, but if the process be not properly executed, the young birds are weakly and soon die. The operation, however, by this machine is so certain, and so completely under control, that the birds produced by it come forth in the most healthy state, and live, flourish, and fatten, as well as any other of their species who owe their existence to a more natural and less extraordinary birth.

There is no difficulty in teaching the young of the various tribes of gallinaceous fowl to eat and drink; they perform these operations spontaneously, or from observation, as appetite prompts them, nor is food necessary till 12 or 20 hours after they are hatched. Sickly and badly-hatched birds generally die from inanition.

It is not necessary, in the eccaleobion, to move or turn the eggs for the purpose of subjecting each to its fair proportion of warmth, as the machine acts uniformly, not only with the same power upon the whole surface of each egg, but upon all alike, however great their number. But, to prevent the yolk of weak eggs from settling by its specific gravity, and adhering to the shell, it is useful to pass the hand over them, so as to change their position once in twenty-four hours.

The egg of a strong, healthy bird, at the time of its protrusion from the body, is completely filled with yolk and albumen. If examined a few days after, by holding it toward the light, a small bladder of air will be discoverable at the larger end, which increases with the age of the egg. This waste of its internal substance is occasioned by absorption by the atmosphere, through the pores of the shell, of the more volatile part of its contents. When the bladder is large in any egg, it is unfit for incubation; nevertheless, in a good egg,



as incubation proceeds, this bladder becomes considerable, probably produced both from evaporation by heat, and the vital action going on within the shell. It also serves an essential and important purpose in the economy of this mysterious process.

The germ, or embryo of the chick, contrary to the received opinion, is not in every egg placed precisely in the same situation, but varies considerably. Generally it develops itself within the circumference of the broadest part of the egg; sometimes it is found higher, sometimes lower; and, when held before a strong light, has the appearance, when a few days old, somewhat resembling the meshes of a spider's web, with the spider in the centre. As it increases in size, the bulk of the contents of the egg decreases, as already stated, so that when the bird is completely matured, it has ample space to move, and to use its limbs with sufficient effect to insure its liberation.

The eccaleobion machine is peculiarly calculated for practical purposes, and whether one desires to hatch very large quantities of chickens for market, or only a few, this mode of producing them will be found by far the most economical and the most convenient. The American eccaleobion is entirely different from anything ever produced in Europe, and infinitely superior for all practical purposes. It possesses a complete and perfect control over temperature, which is the greatest desideratum, and is very compact, containing the hatching-ovens, the heating apparatus, the brooding-places, &c., all within the space of about three and a half feet square. It is portable and in all respects convenient, and is so systematic in its operation, that if the eggs deposited in it are equally good, they are all equally certain of producing the young; and, when liberated from the shell, they are exempt from nearly all those diseases which are so fatal to young fowls in the farm-yard.

The first cost of a machine capable of holding 800 or 1000 eggs, is \$120, but they are not liable to wear out, and the amount of fuel is so small, being only two barrels of charcoal per month or thereabouts, that it must be admitted to be the most economical method which can be contrived. The machines can be attended by females, or those who, from debility, are incapable of ordinary labor. Should poultry decline in price to about the average of animal food in general, still its production by means of the eccaleobion can not fail to be extremely profitable.

It is worthy of remark, that fowls produced by these machines, being free from the ordinary diseases of a farm-yard, arrive at maturity much earlier than those produced in the ordinary way, and are usually fit for the market in six or eight weeks. Thus enabling a person to obtain a quick return for his investment of capital. Persons living near a populous town, with a very little land, may produce with these machines a large amount of poultry, and insure a much increased revenue. The price of the second size, having about one half the capacity of the one above-described, will be \$75, but will require more constant attention.

The eccaleobion has the power completely to con-

trol temperature, independent of climate, season, or changes in the atmosphere, and is absolutely uninfluenced by them. By means of this perfect command over temperature, the egg of any bird, not stale, placed within its influence at the proper degree of warmth, is, at the expiration of its natural time, elicited into life without the possibility of failure, which is often the case with eggs subjected to the caprice of their natural parent. To a successful rearing of a large number of birds artificially, the required essentials are, a sufficient number of these machines, suitable buildings, dry soil, warmth, proper food, and careful attention to cleanliness and their usual wants.

By a judicious system of management, suitable buildings being provided, one thousand birds might be kept in the best possible condition, with less trouble and attendance than a brood of a dozen chickens would require without such measures being taken to rear them.

One great object to be gained by this artificial process is that the poultry will be better and more fresh than usually brought to market, and the markets can be the most liberally supplied at those seasons when the article is the most scarce and the most inferior in quality. There will always be more or less difficulty, however, in producing large numbers during the three winter months, on account of the scarcity of good and fresh eggs.

In our next we shall give an account of the change of the egg within the shell from the first day that it is placed in the eccaleobion till hatched. It is a curious chapter and well deserving attention. We shall also add general remarks on the diseases and management of poultry.

#### IMPROVED WHITE FLINT WHEAT.

IN answer to several recent inquiries, we say that we think the above variety of wheat, so greatly improved and successfully cultivated by General Harmon of this state, is the best we have; and it has given universal satisfaction wherever introduced. It is beardless; has a clean, bright straw; large, well-filled heads, with a beautiful white-skinned berry, which produces a quality of flour superior to any other grown in this country. Pretty much every variety in Europe and America has been tried here, and the improved White Flint continues to take precedence over them. It can be had at General Harmon's farm from \$1.12 to \$1.25 per bushel—delivered here at \$2 per bushel, or \$6 per barrel, containing 3½ bushels.

We are surprised when we look about us to see how little attention is paid to a choice of seeds. It is a matter of great consequence to the grain grower. It is in vain that he makes a judicious preparation of his soil, if he is not provided with a good variety of seed to occupy it. A choice in seed frequently makes a difference of from five to ten dollars an acre in the value of the crop; how important, therefore, that this matter be properly attended to.

Grain which is to be reserved for seed should be allowed to stand several days longer than that to be cut for consumption, otherwise it does not ger-

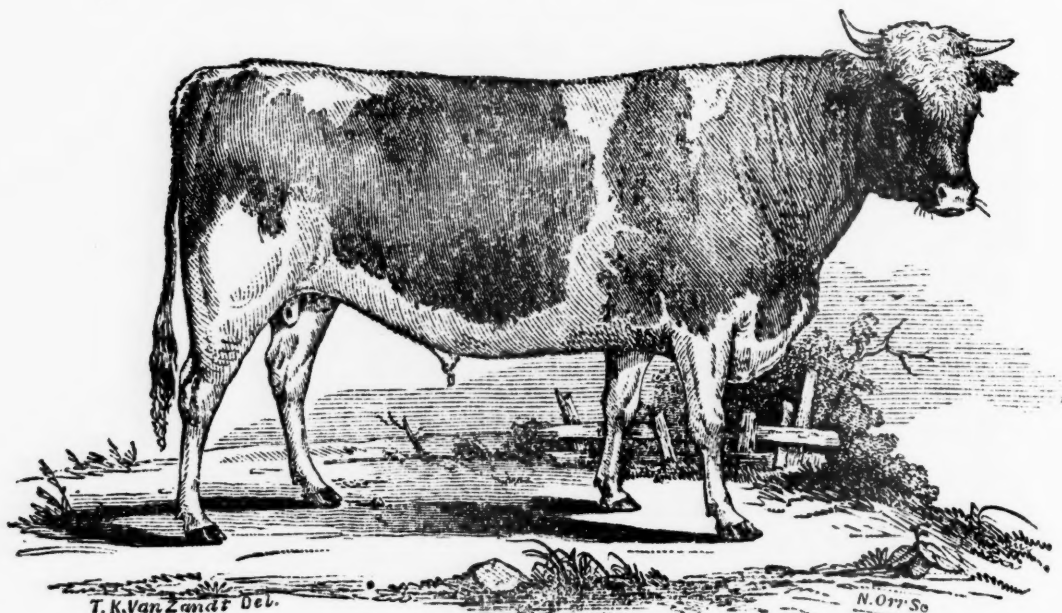
minate so well, nor produce so thrifty a growing plant. When designed for this purpose, the berry should be glazed hard previous to cutting. In selections it is important to choose from the largest and best filled heads, growing on such a length of straw as is most desirable for the farmer's particular purpose. They pay particular attention to this matter in Great Britain, and if their climate were equal to ours for growing wheat, their flour would soon bear the palm in their markets. We ought not, however, to trust too much

to superior climate; for by continued efforts, they may at length make such improvements as will place us in the background.

#### A HALF DURHAM AND AYRSHIRE BULL.

THE above, Mr. Bement informs us, is not a *fancy*, but a *faithful* portrait of a half Durham and Ayrshire bull in his yard. We can readily believe him, for it shows the points of an animal of living flesh and blood. This is a cross highly

SHELTIE.—(FIG. 47.)



The Property of C. N. Bement, Esq., Albany, New York.

esteemed both by breeders in this country and Great Britain, and some extraordinary animals have been produced by it. The Ayrshires, pure bred by themselves, are much liked in New England by Messrs. Cushing, Randall, and others; we also perceive that they are well spoken of in Virginia by Mr. Botts of the Southern Planter. Being a hardy, medium-sized animal, they do well on short pastures, and are esteemed excellent milkers.

#### SKETCHES OF THE WEST.—NO. V.

*Plantation of Mr. Benjamin Warfield.*—This we also found a very fine one, and under a good state of cultivation, and devoted principally to stock. There is the usual quantity of woodland pasture set off here, the residue of the land is devoted to a simple rotation of crops, being mostly corn and rye. The sod is broken up during the winter, or as early in the spring as possible, and planted with corn. Sometimes the ground is so rich that it will bear two or three crops in succession; but we believe Mr. Warfield generally allowed only one crop to be taken. This, as soon as the corn is glazed, he cuts up close to the ground, shocks it, and then sows the field with rye. In October they commence husking, and so continue on during the winter as they have time. As the grass fails, the husked corn-shocks are carted on to the field

which it is designed shall be plowed the next year, spread evenly over it in patches, and a large herd of cattle fed upon them. By this method the field shortly becomes abundantly manured, and is then broken up for the following year's corn crop. It is thus the Kentucky planters are saved the dirty and laborious process of digging up and carting out large quantities of manure from the barnyard, a system of northern farming not at all to their fancy, and to which they usually express a decided disgust. We have often laughed at the wry faces they made up on speaking of it, and replied that it was less laborious and unpleasant than they supposed; there was nothing like habit in these matters, and we Yankees took the drudgery as a matter of course. They are indebted in Kentucky to their superior mild climate for being able to manage these things more easily than we do. Their system of open feeding is a good one for them, and meets our hearty approval, except during heavy rain-storms, and the severest cold weather, when shelter there is quite as necessary as here. The rye gets so strong and rank a growth in the fall, that it can be pastured beneficially more or less all winter when the ground is frozen sufficiently hard to prevent poaching; and then again, when the land has become dry in the spring, till the middle of April. After this the stock is taken off till it becomes ripe, when hogs are turned on to harvest



it; the stubble is then plowed up for corn again, or suffered to remain in pasture if it has been previously sowed with grass-seed.

*Stock.*—This, of course, is Durham, and the foundation of Mr. Warfield's herd was the '17 importation, crossed on by the best later ones. They are choice and fine, and all have quite a family resemblance in the horn, which is very slender and somewhat longer than usual in this breed. His superior young cow Caroline has already taken seven premiums; she is extremely even and well shaped, and of good milking qualities, as indeed is his whole stock, this being a *sine qua non* with Mr. W. in breeding. We found Cossack here, an imported bull, half brother to Mr. Jacques' (of England) celebrated Clemente, which won the first prize as a two-year old at the Royal Agricultural Society's meeting at Cambridge in 1840. We saw him in August, 1841, at the Yorkshire show at Hull, when he was second only to Mr. Bates' Cleveland Lad. Cossack is a fine snug bull, and remarkably well ribbed up. Shannon, bred by Mr. Sullivan, of Columbus, Ohio, is a noble, airy, upheaded, active fellow. Mr. W. has many fine animals, and means to keep on breeding till his farm is completely stocked with first-rate thorough-bred Short-Horns. We also found here a fine stock of thorough-bred Berkshires and their crosses.

Returning to Lexington by way of Dr. Warfield's, we took a look over his horses; and really a beautiful lot he has, and quite numerous. Those which pleased us most among them was a pretty troop of fifteen or twenty colts running wild in a large pasture, just like any other cattle. They were the produce of some of the most celebrated horses of the day; and with their fine forms, clean blood-like limbs, high spirit, and gay action, running, capering, and playing, like a herd of wild deer in their wide paddocks, presented as animating a sight as one will easily meet with in an enclosed country.

*Plantation of Mr. James E. Letton.*—We had many other invitations, and a great deal to see in the neighborhood of Lexington, but some necessary business to attend to in Ohio, obliged us to depart; but arriving at Millersburg, we found that we could not pass without calling to see Locomotive, lately imported by Mr. Letton, from Mr. Bates' celebrated herd at Kirkleavington, England. To do this we had six miles to thread out all alone, in a pretty blind way across the country. But a gentleman at the hotel where we stopped, drew a plain map of the route, and the landlord furnishing us with a smart bay filley, that from her spirit and action we set down at once for near thorough-bred, away we galloped. We pretty soon got into a large open park, then bearing to the left, and now taking to the right, and fording a wild crooked rivulet half a dozen times, opening and shutting as many different gates as we passed from enclosure to enclosure, we at last arrived opposite a snug farm-house. Here we thought it was best to make an enquiry, when a very obliging young man came out and insisted on accompanying us to show the way to Mr. Letton's, although some two miles or more distant. We had not proceeded far, how-

ever, before we espied a person on a tall white pacer, making for the same gate as ourselves in an oblique direction. Coming up, this turned out to be Mr. L. himself, so after making a self-introduction, he hospitably invited us home.

The cultivation of this plantation is much like others before described; we shall therefore pass it over. In feeding his stock, Mr. Letton goes against the forcing system entirely, and means to treat his high-breds in the same way that any good planter and Christian man would his common farm animals. We accordingly found Locomotive running out in the field with the other stock, from which he was taken up at night and fed a little cut hay, mixed with coarse bran.

In the month of January stock appears to disadvantage, and on first looking at Locomotive, one might say that his brisket is even too low, and his fore legs, perhaps, a little too close together. On the other hand, his head and horns are fair, with an elegant arched neck; his back, loin, and quarter particularly good; straight, fine hind leg; twist well let down; and tail beautifully set on. To look at him behind, his barrel is superb; and his handling, from beginning to end, fine, elastic, and without fault. Mr. Bates spoke very highly to us of the milking qualities and fattening propensities of his progenitors, and all we can further add, is, there he stands, and, though not perfect in himself, (for what animal is?) he can not but be of eminent service to the stock of Kentucky, high-bred and superior, as all acknowledge it now is. When we looked over Mr. Letton's stock, his cows were all imported. We liked Miss Severs best. She is superior in the brisket, and otherwise very good.

Mr. L. also brought over from England a couple of young stallions of the cart-horse breed. The black is a very handsome animal of his kind; indeed, one of the most so that we ever saw. The gray is larger, but somewhat coarser. The object in view is to cross them on the largest mares of the country, and the females of this produce breed to large-sized Jacks, for the purpose of insuring them stout 16-hand mules, for the heavy work of the farm, and to sell south. Mules are so much tougher and harder than horses in a hot climate, that it has become a great object to breed them of sufficient size to do the heavy work of the plantation. Under these circumstances, Mr. L.'s enterprise is highly commendable, and we wish him marked success in his laudable improvements.

Next to the horses, we were shown some fine large Leicester sheep, and some swine, a cross of the Berkshire on the Irish Grazier, which, had they a smaller ear, and one could be assured of the same hardiness, we should consider them almost equal to the pure Berkshire. We think this cross, anyhow, infinitely superior to all the Woburns we saw in Kentucky, or crosses of them.

On the road to Maysville, mounting the box alongside of the driver of the coach, whom we found quite an intelligent young man, as the horses started off, we were attracted by the superior power, form, and action of the leaders, and inquired where they were bred?

"At the north."

"Do you not find them superior to those in Kentucky?"

"Yes."

"In what respects?"

"They stand not only the cold, but the hot weather better than the native-bred horses here; have harder hoofs, and are more enduring; possess more power; better wind and bottom; and somehow or other seem to do their work quicker, easier, and more comfortable to themselves and driver."

"Have you had much experience in driving northern horses alongside of the western ones here?"

"Three years."

"To what do you attribute the northerner's superiority?"

"Mostly in breed, but something in climate and food. The farmers here feed too much corn and rich rank pasture."

"I should judge from their action your leaders would easily trot their mile in 4 minutes."

"Yes, that they would, in less time with a light load; for when I have had in my whole team of northerners, I trotted a mile with this great heavy stage in 4 minutes 22 seconds; which is at the rate of 14 miles an hour, and I can any time do it again."

Gentlemen may take this conversation for what it is worth; but now that Macadam roads are pervading Kentucky, if they would breed the proper sort of horses, adopt lighter vehicles, carrying only 6 passengers inside and 3 outside, they might travel 8 miles an hour, with as much ease as they now do 5 miles. Railroads are out of the question there for a long time to come; they can never pay, and it is to be hoped under these circumstances that greater attention will be paid to expediting their stage-coaches. We have always thought coaching much more useful, and certainly quite as exciting, as the course. Young men in the interior want something to stir up their blood and give life and spirit to a country life. Suppose then they get up a few driving-clubs, for four-in-hand handsome match horses, put the driver in costume, mount one of their servants in the republican livery for a guard, and give him a French horn to occasionally enliven the road. The stage-coach of Kentucky would thus soon become in great vogue, and add much to the pleasure of a journey through this beautiful fertile country.

#### SOWING RYE AND GRASS SEED AMONG CORN.

FROM the 20th of the present month till the 10th of September, according to the latitude, is the proper time for sowing rye and grass-seed among corn, though we have known it sowed with good effect still earlier than the first period mentioned. So long as the corn is standing, in order to have the rye take well, it must be hoed in, as the stalks will have grown too rank by this time to work a narrow harrow or cultivator among the rows. If the sowing is delayed till the corn is cut up and shocked, as is common at the west, harrows can then be used without difficulty, and nearly all the ground will be covered except the spots where the shocks stand, and these can be sowed after the

shocks are removed; if in the fall, with rye or wheat, as the case may be; if not removed till winter, with barley or oats the following spring. In that case, instead of mere patches where the shocks alone stand, it would be better to leave rows of the width of such shocks the whole length of the field. When rye is sown among the corn, and got in so imperfectly, a peck to a half bushel more seed should be used per acre than is generally allowed in a bare open field.

#### AGRICULTURAL EDUCATION.

By reference to Dr. Gardner's advertisement in this No., it will be seen that he proposes commencing a course of scientific agricultural instruction, at the University in this city. We are heartily glad that he has embarked in this laudable undertaking, and need only add, that we think him well qualified for the task he has undertaken, and hope gentlemen will avail themselves of his course of lectures. It is high time that something was done by way of better qualifying farmers for their profession, and we are rejoiced that Dr. Gardner has at length consented to make a movement toward the accomplishment of it. It will be seen that the price of board is so cheap in the vicinity of the University, that any one from the country need not be deterred from attending the instruction here on account of the expense.

THE FORTHCOMING SHOW OF THE NEW YORK STATE AGRICULTURAL SOCIETY.—This great event, let it be borne in mind by our readers, will commence on the 18th of September, at Poughkeepsie, and continue three days. Wherever we go we find that the show is spoken of with much interest, and we notice that many of our farmers and mechanics in this vicinity are preparing for it. The right sort of spirit also pervades the river counties in the more immediate neighborhood of Poughkeepsie, and considerable preparation is on foot there for a grand display. The Executive Committee had a meeting at Poughkeepsie the past month for the purpose of making preliminary arrangements, and found themselves warmly seconded in all their wishes by the inhabitants of the place. Old Dutchess, we think, will not be lacking upon the occasion, but do herself honor during the three days of the show. Many gentlemen from the north and the south will be there, as curious gazers, and purchasers of stock, implements, and seeds. Let those, therefore, who have such things to dispose of, be on the alert, and take care that they are well represented. We hope western New York will send forth her handiwork, and some of her fine animals. The distance, certainly, is not too great for this part of the country to make a handsome representation of its products.

FAC SIMILIE OF WASHINGTON'S LETTERS ON AGRICULTURE.—We desire to call particular attention to the notice of this work under head of Editor's Table, page 222 of this number.



## THE PATENT SAFETY REIN.

For the above cut and the following directions for the use of the Safety Rein, we are indebted to the New York Spirit of the Times. The article was addressed to John S. Skinner, Esq., of Washington, by Mr. Thomas Blagden. We gave a full account of this rein, page 350, of our last volume, or would copy Mr. Blagden's letter entire. It was invented by a Mr. Miller of Scotland.

**Directions for use of Safety Rein.**—In putting on the rein for a gig, keep the buckle to the left hand, or near side; that will place the loop, which is on the middle of the rein, below the hook or head of the bridle, which prevents it from being thrown out by the motion of the horse's head. For a pair of horses, keep the two short chapes outmost, and the loops on the middle downward. For saddle, keep the buckle to the left hand.

When the rein is used either for running, rearing, kicking, or going backward, it should be applied suddenly with a strong arm, keeping up the pressure until the horse is still; it should then be relieved suddenly, at the same time motioning the horse to go on. If he is only a runaway he will obey it at once, such horses being generally of a willing good temper. But should he possess the other vices, or any of them, it frequently proceeds from a stubborn, sulky temperament; with such horses the above process may require to be repeated, until he is subdued, and obey the motion, which will be effected, even in the worse cases, after a few times.

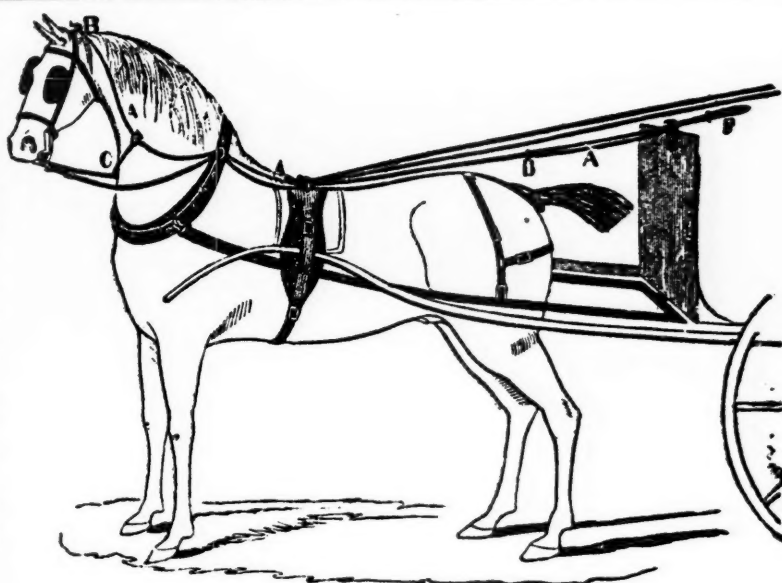
To derive the full benefit of this rein, it is recommended after the horse has been a few times firmly gripped with it, to use it occasionally, and it should frequently be used instead of the bit-rein to stop him on ordinary occasions; this will remind the horse of his subjection, and will accustom the rider or driver to the ready and accurate use of it in case of an emergency.

By attending to the foregoing directions, the most troublesome horse will, to a certainty, become quiet and manageable.

## NEW YORK FARMERS' CLUB.

**Potatoes, Lettuce, etc.**—Junius H. Smith, Esq., made an interesting written communication to the club on the subject of seed-potatoes, setting forth his success in producing an early and a productive crop of potatoes from very small seed, and also the economy of using such potatoes instead of giving them to the pigs. He also presented a cos lettuce weighing three pounds and one ounce a plant, and potatoes grown from small chits, as large as those usually produced from full-grown potatoes.

Mr. Sprunt, gardener of Stephen A. Halsey, Esq., of Astoria, presented some very fine sovereign potatoes, distinguished for their fine color, and large,



PATENT SAFETY REIN.—(FIG. 48.)

fine skins; also, an ox-heart cabbage weighing ten pounds.

**Late Strawberries.**—Samuel Stevens, Esq., presented some large strawberries on the stem, some ripe and others ripening. These are in season, while others in his garden have done bearing for this season; also a ripe nutmeg-lemon of fair size, grown since being transplanted from the hot-bed in the open air.

**Galvanic experiment on Potatoes.**—Mr. Ross of Ravenswood, presented some potatoes measuring seven inches in circumference. He planted the seed-potatoes on the 5th of May last, using leaves only for manure. To three rows of two hundred feet in length, he applied perpendicularly, at one end a plate of copper, and at the other one of zinc, both about five feet long, and connected the two plates by a copper wire supported on an adjoining fence, so that with the moist earth of the three rows, the electric circuit was complete. All the potatoes of the field were planted at the same time, but those having no galvanic apparatus, have small potatoes not larger than peas. He removed the blossoms from the potatoes, and the stems and leaves are all much alike; so that this enormous difference in the tubers is due to galvanism.

He had cucumbers, last year, five inches long, in five weeks, from the seed, by using the galvanic circuit.

**Chairman.**—These experiments are not new. They have been tried in the conservatories of England, and with especial success on pine-apples and some other fruits.

**VALUE OF URINE.**—It is calculated that if the urine of the 2,000,000 inhabitants of London was collected and applied as manure, its annual value would be £500,000, about \$2,500,000! The farmers of Lucca, in Italy, give \$5 per family at Pisa, for the contents of the cesspool, and transport them a considerable distance. At that rate, what is annually wasted in New York city, would be worth at least \$350,000!

## CULTURE OF TOBACCO.—NO. III.

HAVING attained a suitable soil, which can not be supposed to have the highest porosity by mechanical means, burning, or fallows, and the land being in a proper condition as respects drainage, the next object of the farmer is to secure the second indication—to *hasten the solubility of its saline matters*. In this part of my subject, I take for granted what I know to be the truth, that fair lands recently cleared, although unproductive, are yet well stored with the insoluble saline matters already pointed out. My remarks do not refer to such soils as are essentially deficient.

This indication may be accomplished in several ways:

- 1st. By liming.
- 2d. By burning part of the surface-soil with lime in the kiln.
- 3d. By incorporating vegetable matter in the soil.
- 4th. By burning, if clay, and pulverizing.

These processes are not all applicable to every soil. They are to be severally adopted as circumstances will permit, and that the distinctive value or expediency of each may be understood, I will treat of them in a few words.

*Liming.*—The action of this important agent on the soil is manifold; it gradually liberates alkaline matters from their combinations with silica, rendering them soluble, and this is the principal action now under consideration. But by destroying the chemical union of the minerals of the soil, it enables the carbonic acid to act upon other saline bodies present. It produces mechanical disintegration as well as chemical disunion, neutralizes acids, destroys insects, hastens the decomposition of vegetable matter, and yields food for the plant itself—and in the case of tobacco this is no unimportant point. To dwell upon each of these heads would require more space than the limits of this paper. The one now prominently brought forward, is the property lime possesses of reducing insoluble minerals, such as granite, felspar, &c., to the soluble condition, and which is the principal reason of its great power in amending poor lands, especially of primary and transition origin.

The dose of lime must be liberal, at least 30 bushels and upward per acre. It should be turned in to the depth of two or three inches, and applied as fresh slaked as possible some time before the crop.

As respects this property of lime, shell-marl will not replace it on the farm, although it likewise possesses the same action in a very diminished degree. If burnt, however, it will answer, in much larger quantities. Another reason why I recommend lime, is, that it forms a very large proportion of the ashes of the tobacco-plant; indeed, this substance is capable of entirely replacing potash in the structure of the plant. In the analysis given in my former paper there are 51.38 parts of the salts of lime in 100 of the ashes of tobacco from the Havana; but in the researches of Berthier upon six specimens from Europe, the United States, and Cuba, the quantity of lime was very little in proportion to the potash salts. This truth may be surprising to those who have read only the first

work of Liebig on agricultural chemistry, wherein he makes potash the indispensable to fertility. But in chemistry it is a well-established fact, that one mineral substance may replace another without detriment to the form of the resulting body. This is termed isomorphism. In plants, the inorganic substances are present for various purposes; among others, they are of importance in determining the form or figure of parts, as well as in neutralizing acid substances, produced during vegetation, which require to be changed, such as oxalic, malic and other acids; and in tobacco the lime is in part united with malic acid to this end. Lime is not under ordinary circumstances, or in every case a substitute for potash; but the hydrate of lime is isomorphous with potash and soda. In wheat and grasses, lime can not replace the alkali, for it does not form soluble compounds with silica, which are essential to gramineous plants. But in tobacco, there is no silicates of potash worthy of remark, and lime is therefore capable, and does act, as a partial substitute for potash. This fact is of great consequence to the farmer who designs improving his neglected fields, for tobacco, and it will be better received when I add that in this respect marl or crushed lime-stone will answer as well as burnt lime.

2d. The second means recommended, the burning of some portion of the surface soil with lime in the kiln, is applicable only where that soil is rich in mineral *silicates* (granite, felspar, mica, clays,) and not when the soil is sandy or calcareous. It accomplishes the solubility of the mineral in the kiln, so that it is equal to direct manuring. Care must be taken, however, that the lime is in such excess as not to produce hard slags.

3d. The third method of increasing the solution of the valuable saline matters of the soil, is, by the addition of organic matters. This is the method which practical men have fallen upon for ages, and is directly followed from the operations of nature herself. The fact that new lands, laden with the accumulated leaves of ages, are fertile; while those tracts that have been cropped until destitute of vegetable matter, are commonly unfertile, must have been observed from the remotest antiquity; and without further inquiry, must have suggested the restitution of vegetable matter as an improvement of land. I have already explained in my first paper how organic matter acts. It is necessary to observe in this place, that unless decay is freely going on, the action of the vegetable matter is impeded, or arrested. If the soil is wet or retentive of water, that kind of decomposition which yields carbonic acid (*eremacausis*) does not take place, but a putrefactive process, which is unserviceable in effecting the object under consideration. The value of organic matter in rendering mineral matter soluble, depends upon the dryness of the soil, the free access of air, temperature, and the rapidity of decay. The fertile plains of Patna in India, which yield the nitre of commerce, are rich in vegetable matter, which acting on the minerals of the soil release immense quantities of alkalies and lime.

Vegetable matter may be added to the soil in various forms—stable manure, peat, muck, weeds,



and other rubbish, or the introduction of fallow-crops. Of these the fallowing of clover is the most economical and serviceable. It should be turned in to the depth of four inches at least, when in head, but before the expansion of the florets. At this time the greatest amount of organic matter is present in the plant.

4th. *By burning clay, and pulverizing the soil.* The action of these processes has been partly explained. The pulverization of the soil increases its porosity and extent of surface, and more rain-water and atmospheric air are retained—these act so far as they contain carbonic acid in rendering silicates, phosphates, and the carbonates of lime and magnesia soluble. *The burning of clay with this view is of the first importance in agriculture.* Barren clay, according to the ideas of farmers, even pipe-clay, that tough unmanagable substance so perplexing to the husbandman of primitive and transition countries, becomes remarkably fertile by being burnt and reduced into coarse powder. If any planter has practised, or shall be induced to burn a few loads of clay, he will understand the reason of its acquired fertility by observing the phenomena that appear under certain circumstances. Let a parcel of burnt clay remain in the field exposed to the air and rain; moreover, let it remain on such a spot that a little water is held so as to keep the heap moist for a week or two—if now dry weather arrives, as soon as the clay dries at the summit, an *efflorescence* of saline matter will be seen, which increases with the drought, until the whole heap is frosted over with minute white crystals. This phenomenon is familiar to the farmers of England and Ireland. It may be seen upon the bricks of our town-houses in such places as are continually moist, and is due to the difference made on clay by burning; for raw clay, exposed for ever, will exhibit no such efflorescence. As the burning of clay in America is not yet practised; as it is accomplished with great ease, requires no previous instruction, and can be trusted to slaves in the very outset; as the wood of our forests is wasted in large quantities, and might be used for this purpose; as every charcoal kiln may be made to yield numerous loads of this valuable article; as the materials are at home, and as it is one of the most valuable means of redeeming old lands and maintaining the fertility of new tracts, I wish particularly to urge it upon the attention of planters and farmers. With this view I shall make further observations on the subject to explain the nature of the phenomenon before mentioned. As long as common clay is in the natural state, it represents a mineral, having a chemical composition of so stable a character, that it will remain for hundreds of centuries unchanged, from any cause within itself: but by the addition of heat, the proportionate combinations of silica, alumina, potash, &c., which it contains, are altered, and instead of one mineral containing many constituents grouped together, it is reduced to a series of distinct silicates, which are acted upon by reagents differently from the complex mineral. As far as the alumina is concerned, it is rendered more fixed, more insoluble and persistent; but the potash, losing a portion of its silicic acid, allows itself

to be acted upon freely by the carbonic acid of water. In the same way, if soda, or other substances be incorporated in the mineral, they are loosened from their affinities to a greater or less extent. Hence, if the saline efflorescence be chemically examined, it will be found to contain potash, soda, and other substances, the two alkalies as carbonates for the most part.

On this topic, I beg to state, that I possess practical knowledge, and therefore urge it forcibly, because I know that it will ameliorate many tracts at present doomed to hopeless barrenness. If they are clay, I can promise, with the land-owners of Roothings, who have practised burning for upward of 30 years, that it will increase the value of even good meadows 25 per cent., and barren clays at least a thousand per cent. It is an improvement calculated for the tobacco counties of Virginia, known to me, by a residence of six years in that state. It is an improvement adapted to poor worn soils, and nearly approaches lime in this respect. The expense is trifling, and in old fields where pine brush is abundant, may be considered a gain. The amount burnt can not be too great, in rich meadows 130 to 150 square yards per acre is used, but larger quantities would be required for barren land. The clay should be dry, and as pulverulent as possible when piled upon the brush-wood, and be burnt until it falls into a coarse powder. If heaps are made every five or six yards, the ashes are easily spread. It is to be used as a top-dressing, after the land is loosened as much as possible. Success in this practice is not to be expected if it is made the only means of improvement at first, or if the process is carelessly managed.

D. P. GARDNER,

Lecturer on Agricultural Chemistry.

New York, June, 1844.

#### TOO MUCH LAND.

DURING a recent excursion in this, and some of the New England states, I was struck with the comparative sterility of land which might by proper cultivation become "the garden of the world." Instead of seeing fields of wheat bearing 30 bushels to the acre, we find scarcely 12 to 15 is the yield; where two tons of hay should be cut, hardly one is the product; where thriving fruit-trees might be expected, bending beneath the weight of their delicious fruit, our eyes are pained by the sight of gnarled, stunted, and half-dead trees, scarcely able to sustain the life of the few curled-up leaves that come forth as if to reproach their owners by the sight of their consumptive appearance. If they had tongues to speak, how bitterly would they complain of their treatment. Is it because nature is so miserly that she does not reward man for the labor he bestows on her, or because man will not let her yield a bountiful supply in reward for his labor? What is the cause of this sterility, and the complaints of the farmers that they can not make a living, though they have hundreds of acres at their command? It is evident the fault is with themselves. They attempt the cultivation of *too much land*!

Our farmers have from 50 to 500 acres under what they *call* cultivation. Still they are in debt, and in many cases the more they possess the worse they are off. Their land is scattered far and near. Two acres here, and ten there, instead of being compact together. In this manner, more time is often lost in going from one lot to another, in building the fences of other people, and keeping out their cattle, than the whole income of the land amounts to. I have myself lost more time in this way in a single year, than it would take to keep ten acres in the finest condition.

What is the remedy? Sell half of your land and spend the proceeds of it on the remainder, and thus make what you have yielded a liberal income. This may appear to those who have always "followed in the footsteps of their forefathers," of adding field to field to their farms, as the height of folly, but I am confident it will be their salvation. There is a good old adage, one that should be remembered by farmers as well as others, "Never attempt too much." Depend upon it, there is no course so suicidal as that of owning and attempting to cultivate 200 acres, when you can hardly do justice to 100. Suppose, for instance, a man has 50 acres of naturally good land, and he has but a certain amount of manure, time, &c., to use in its cultivation, which is not enough to keep it in heart, or pay that attention to rotation of crops, which it requires, is it not evident that the land, the owner, or whoever is connected with it, must suffer? would not all intelligent persons condemn such a course? yet how many such instances are to be seen all around us! I believe it would be for the interest of many farmers, even to give away a portion of their land, rather than have so much in their care. Self interest tells us, it is the true policy of such a man to sell what he can not properly use, for he would gain time to devote to the remainder, money to purchase all that it required, his crops would yield in double ratio, his land increase in value as it increased in fertility, and thus he would be in every way benefited.

I have seen acres of the best land, overrun with daisies, burdocks, thistles, mulleins, and other noxious plants, that root out the grass, and eat up the life of the soil, without affording nourishment to man or beast, which might by a little attention yield a rich harvest. But the farmer has no time to attend to it, and the land becomes worse than useless; for it is self-evident that land must either increase in fertility, or decrease in value—there is no middle way—it must afford a profit or be an expense.

Look again at the swamp and meadow lands, with which our country abounds that are now worthless, and causing sickness and death in their vicinity. All these might be reclaimed and made the most productive land, by a small outlay of time and capital; the owners have neither, because they have too much land already calling for their attention. The muck contained in these places, can be made to pay better interest than bank stock. Yea, if properly used, it may be the farmer's mine of wealth.

This leads me to inquire how are our lands rightly to be cultivated? I reply by using the experience

and directions of those who have studied the chemical formation of soils, and the effect different manures have on different soils. Much time is lost, and land injured, by the farmer not knowing the relative value of his manure, and the theory of rotation of crops, which might be saved by the expenditure of a little time and money in procuring and reading agricultural papers and books. There is too much of the saving a cent, and losing a dollar economy in this age. When the time shall have arrived that men will be willing to study the theory and practice of farming in all its details, then shall we see agricultural pursuits elevated to a proper standing and yielding a profit that shall rejoice the hearts of all.

C. CASSE.

Orange County, N. Y.

#### THE COW-PEA AND PEACH.

Our friend, Mr. Affleck, on page 181 of current volume of the *Agriculturist*, in making some remarks on the cow-pea, says, in speaking of culture, &c., "It has already been *discussed* in all its bearings, but has been *but little* tried." Also, for fodder it is "difficult to save." As I differ from him on both points, and as the difference involves others, judging from the *italics*, and as it might deter farmers not conversant with the article from cultivating it for hay, I beg to give my notions on the subject.

The cultivation of the pea, has been known to me practically for the last twenty-five years, and although no experiment similar to the one Mr. Affleck proposes has ever been tried within my knowledge, yet so many have been, that the result of such trials seem plain. I can not call to mind where, but I think in the *Southern Agriculturist* for 1832, or about that time, you will find a detail of experiments with the pea. You will also find in Vol. XIII. of the *American Farmer*, page 212, an experiment made by the Hon. William Lowndes, as detailed by W. G. Read of Baltimore. At all events I feel certain, that though "it has already been *discussed* in all its bearings," yet that it was discussed from the deduction of *tried* experiments.

As a food it assuredly stands high, and is difficult to save if attempted as in curing other hay. There are two plans that will obviate the difficulty, viz: after cutting put them up into rail-pens having a floor of rails in the bottom some 6 to 12 inches above the ground, on which place the vine to some 2 feet thickness, and sprinkle it with salt, then a floor of rails, on which put more vine and so on; the other is, to pack away in your shed or narrow house, pea-vines and oat or rye-straw, layer and layer about, using salt on the pea-vine. I have housed the pea-vine the day cut. The vine is not cut by cradling, nor would any one require to be told it were impossible, if he ever saw them grow; nor would I suppose any one ever recommended it, unless writing of one thing and thinking of another. But they can be cut with hoe, knife, scythe, or sickle, either of which I should greatly prefer to the two-horse harrow, or any such mode; for this reason, that the horses would waste



a large quantity of the ripe pea, being generally saved when about half the peas have ripened. I have used the hoe and the scythe, and think two hands can save about as much as by any other plan, though they may not go over so much ground. The hand with scythe will cut as wide a swath as he can, not a wide one truly; the other hand will follow and pull the cut vines back out of the mower's way. After remaining in winrows from half to one day, house, either in pens or narrow house as above. I lived in a section of the south, where the pea was planted alone for housing, and have known from 25 to 50 wagon-loads of the vine saved, I verily believe, on an acre. I was raised where peas, blackberries, and whortleberries, were articles of sale, and beg to be considered as knowing a little of the culture of the pea.

*The Peach.*—I have beds of this year's working that have grown two inches. The stocks are from the seed of last year's fruit, and I am certain if the seed be planted in good soil, and the stocks cultivated, that they will attain the height of three feet by the first day of June next, and be over one fourth of an inch in diameter. If allowed to grow one year, they will be an average three fourths to one inch in diameter, and from seven to ten feet high; if budded the second year, the grower will lose one year any how in bearing, and the heading be less certain, and the stock will be so much larger, that two years must expire before the scion will be of same size. Mr. Hatch, of Hatch & Co.'s nursery, assured me that he planted a peach-stone or *pit* in March (I think) of 1843. It was budded the same year, and headed down to a proper head, this spring it had blossoms, and measured one inch in diameter and full seven or eight feet high. The plan of budding on second year's stocks I have followed, and it may be best with you, but I think it wrong here. The failure in budding is full two to one greater, and a loss of one year.

Many persons prefer to bud in August and September, and fear to remove the trees, the next spring; I have done it, and moved them even to a distance of one hundred miles. They were out of the ground fifteen days, but carefully packed in a box of earth. I would not hesitate to bud in June, or even in May, and to remove in October and November, or February and March.

My plan to grow peaches, is to place the stones in a box of earth as soon as the fruit is eaten. Let the earth in the box be kept as is the earth in field or garden, by sinking it in the ground; in the spring about the time the seeds have burst their covering, take up the box, turn out the earth, and plant the seed or young stocks in rows three to four feet apart and a foot in the row; keep the earth well cultivated, and begin to bud in June. Examine when the bark slips easily, for it does so more readily at one time than another, the season making a difference—if very dry and on dry soil not so readily. By doing thus, the peach will bear the third season.

*The Cotton Crop.*—There is one thing certain, that many who now grow cotton must quit it, no one can grow cotton at \$15 per bale, and pay \$2 out of that for freight. We must grow less cotton

and provide more of the necessities, we shall then consume less of foreign make; this will again affect the article, but we shall be in better condition; for if we get only four cents per pound, we can count on having 50 to 60 per hand in money, instead of double that in meat, bread, &c.

Many farmers are now looking at this—they see and feel the consequence; yet they have been so long wed to the system pursued by their forefathers, that they can not meet the issue at once. The cotton-growing country can now grow three millions of bales; what effect such a crop would have I can not think, and fear to suppose. This quantity will be grown, and before consumption requires it, unless I am mistaken greatly. From all I can learn the corn-crop is large to an unprecedented degree; but it will not keep down the price next year. The last crop was good, yet not as heavy as appearances indicated, and being so very cheap, as low as 12½ cents per bushel, it induced a want of care; the consequence—price higher than for years before. There is a scarcity now; so soon as the growing crop is ripe enough to use, it will be used, and again there will be some want.

M. W. PHILIPS.

*Log Hall, Edwards' Depot P. O., Miss.,  
June 26th, 1844.*

#### MULBERRY-PAPER.

I HAVE not been successful about getting the mulberry foliage worked, on account of preoccupation of the several paper-mills, nor has the bark been forwarded as I hoped; however, I enclose you a small specimen of that operated upon by the first process of steam. I had hoped before this to send some that had been dressed, but Mr. Conant, on whom I depended for it, has on hand so many other engagements that I find a difficulty in accomplishing the thing so much desired.

The temperature is so low that silk-worms feel it severely. I have never known so much inquiry however for foliage. This tells the story for those who have destroyed their trees, and shows the importance of multiplying them if ever silk is to be made. I have made liberal sowings of seed, and hope to have such a supply as to encourage some good silk-grower to take hold and carry out the business effectively, by hiring or taking the whole concern on shares for a succession of years. I can not devote my time to it without interfering with my office, and I should not have troubled you with any remarks, if you had not called on me when here a short time since and requested any new observations upon the silk culture.

D. STEBBINS.

*Northampton, Mass., July 8th, 1844.*

#### BUTTER-MAKING.

THE following communication was addressed to Frederick J. Betts, Esq., President of the Orange County Agricultural Society, and politely tendered us for publication; and as Mr. McWilliams' dairy enjoys a high reputation, we do so with great pleasure, notwithstanding other articles on this

subject have already appeared in both our last and present volumes. Mr. McW., we see, differs slightly in his process of making butter from those before described, by adding cold water to the milk when poured into the churn, and commencing churning it at a lower temperature than usual. This must certainly increase the labor of bringing the butter, and we should like to know of him, whether it is compensated by superior quality, or an additional quantity. The richer milk is, the sooner butter comes, and we have often thought in butter-dairy districts, more attention should be paid to the quality of the milk than the quantity; for it is something of a consideration to the dairyman to have his butter come with as little labor as possible, and if as good a quality and as much in quantity can be had in fifteen minutes' churning as in two hours, it will amount in the aggregate to a great saving of labor. We wish, sincerely, that a series of experiments might be made between the better and poorer qualities of milk; for certain it is, if a cow which gives 10 to 12 quarts per day makes as many pounds of butter as another that gives 16 to 18 quarts, both consuming the same quantity of food, inasmuch as the milk of the former would churn to butter sooner than that of the latter, she should be preferred as a butter-cow, unless the extra quantity of butter-milk from the latter made up the difference in value of the labor in churning and milking.

*Scotchtown, Jan. 3d, 1844.*

Dear Sir: Having received your note of October 20th, wishing me to give a minute description of the process of my way of making butter, I cheerfully comply with your request. Willing to give what little information I am in the possession of, and hoping to get more information from the statements of several of our best butter-makers which you propose publishing. My farm consists of 103½ acres of land, 85 of which is under cultivation. In my dairy I keep from eighteen to twenty cows. The farm is elevated land suitable for grazing; the north end is the principal meadow. The buildings are placed near the centre of the farm, and from these the land gradually descends to the south. The southern part is watered with springs, the middle with wells and springs. The north with springs and a never-failing stream of water.

Our practice is not to churn the milk until it becomes thick or loppered, the milk and cream is then churned together. The temperature of the milk is about 50 degrees. In warm weather about a quart of cold water is put in each pan before the milk is strained, so as to keep it sweet as long as possible. The cellar-floor is brick. This in warm weather is daily cleansed with cold water. A drain from the cellar carries off the water thus applied. The churn is filled about half full with milk, with the addition of two pails of cold water before starting the churn. In cold weather the same quantity of warm water is applied. When the churning is finished, which usually occupies about two hours of time, there are then two more pails of cold water applied to raise the butter and cool it. The butter is then taken out of the churn and put in a large tray, this is immediately filled with cold water and the butter carefully washed;

after which the water is thrown off. The butter now undergoes the process of salting, it is then placed in a cool situation where it stands about an hour, and worked carefully over. This finished it is placed in the same situation as before, where it stands three or four hours, and is again worked over; again replaced for five or six hours, when it is worked over for the third time. It is now replaced, where it stands till the next morning and worked over for the fourth time. A small quantity of nitre is then put in the butter. Thus finished it is placed in firkins holding about 85 lbs. Previous to packing, the firkin is scalded with hot water, rinsed and cooled with cold water, then rubbed all around with fine salt; this prevents the butter from adhering to the sides of the firkin. When the firkin is full, a linen cloth is placed over the top of the butter; on this cloth a covering of salt is put one inch deep, and cold water enough added to it to form a brine. It then stands till it is to be sent to market when the cloth and salt are removed, the firkin turned down, the top of the butter in the keg washed with cold water and the pickle drained off. The firkin is now neatly headed up and sent to market.

GEORGE S. McWILLIAMS.

#### MCCORMICK'S REAPING-MACHINE.

WE have never seen this Reaper in operation, but understand that it is highly approved of and quite in demand in Virginia where it was invented. We have been shown certificates from several eminent practical farmers there, expressing their satisfaction of its performance on their plantations. Mr. McCormick is now on a tour in this state, for the purpose of introducing it into our large wheat-growing counties, and will proceed west as far as Michigan and Illinois on the same errand, and we trust the farmers in that quarter will give it a fair trial. So long as crops come in so abundantly, we must expect the prices of produce to rule low; it behooves the agriculturist, therefore, to avail himself of all possible improvements in culture and harvesting; he will thus be enabled to successfully compete with the foreigner, and supply distant nations cheaper than any other country can do. If prices fall we must endeavor to grow our products at less cost.

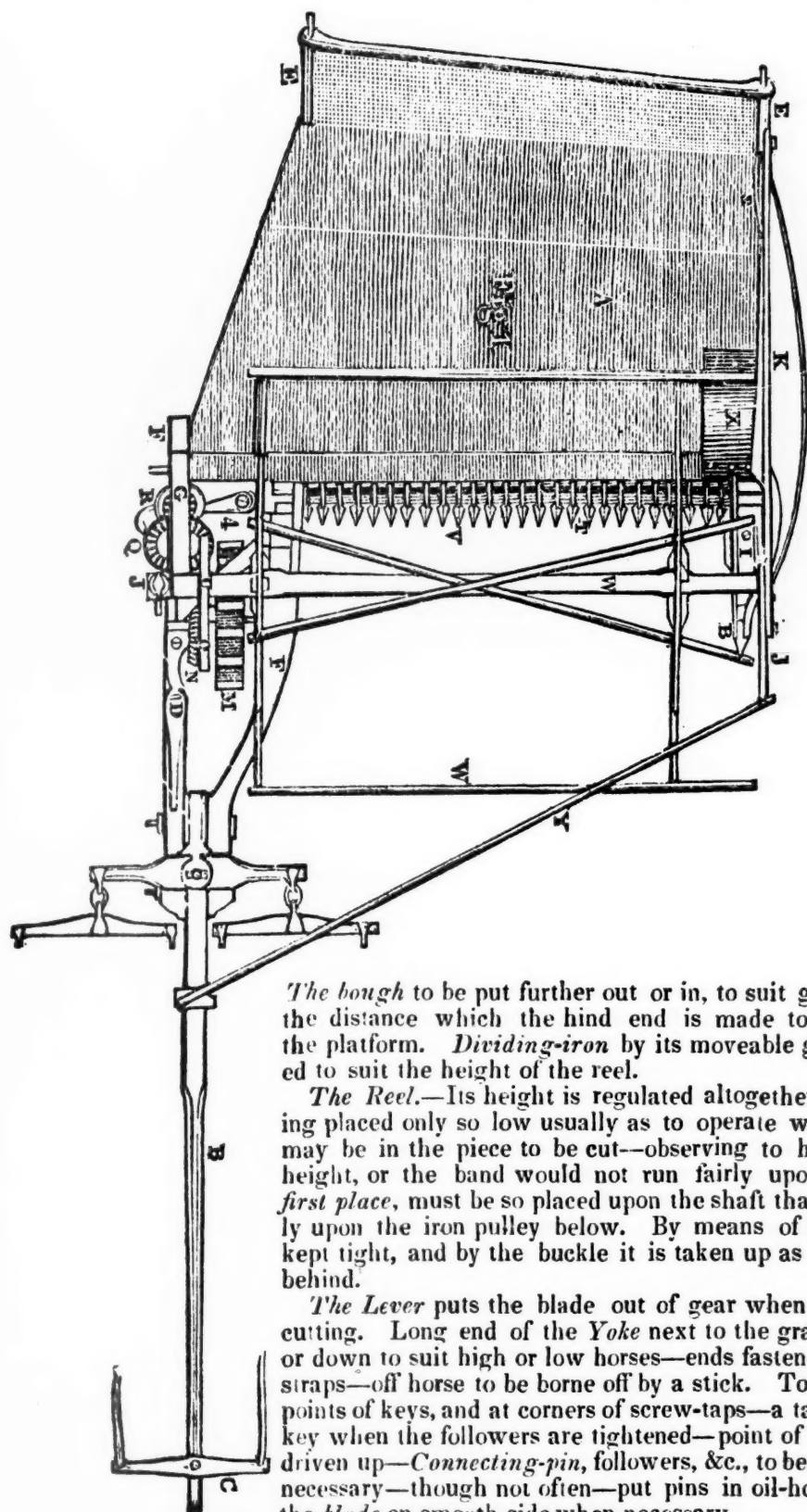
*New York, July 5th, 1844.*

I herewith transmit cuts of my Reaping-Machine, together with a description of the same.

*Description.*—n, the tongue; s, tongue-post, fig. 2.—c, yoke, fig. 1.—y, front brace; F, D, hounds, fig. 1.—R, Q, G, wheel-post, fig. 2.—s, wheel-brace, fig. 2.—j, short reel-post, fig. 2.—A, platform, fig. 2.—a, out-joint piece, fig. 2.—k, small wheel-piece, fig. 1.—E, E, cloth-posts, fig. 1.—v, T, teeth; L, false-divider, fig. 2.—J, long reel-post; K, platform-brace; Z, side-board, fig. 2.—x, wheel-cap, fig. 1.—H, bough, fig. 1.—B, divider, fig. 1.—H, dividing-iron, fig. 2.—M, main ground-wheel, fig. 1.—H, small ground-wheel; N, master cog-wheel; F, pinion, fig. 2.—Q, beveled-wheel; R, fly-wheel; W, reel-shaft, fig. 1.—U, reel-pully; W, W. &c., reel-ribs.



TOP VIEW OF REAPING-MACHINE.—FIG. 48.



## DIRECTIONS.

*Nine and Eleven-Inch Shifts.*—It will be observed in putting the machine together that there are two full shifts for cutting 9 and 11-inch stubble. These shifts are marked whenever an alteration is required to suit them respectively, 1 for the 9-inch shift, and 2 for the 11-inch shift. There is a pair of *followers* for each shift, and should a different shift be preferred to start with (as wheat may be long or short) from that suiting the followers *left in the driver*, they must, of course be changed. Should a shorter stubble than 9 inches be required for short oats on smooth ground, a half shift may be made at the *tongue*, without further alteration, except to make a small ground-wheel 3 or 4 inches less than the one to the machine.

The *divider* to be placed with the screw left about the middle of its mortice, and on a trial to be set out or in as may be shown best by the operation. As much grain should be collected by it as can be *well* cut.

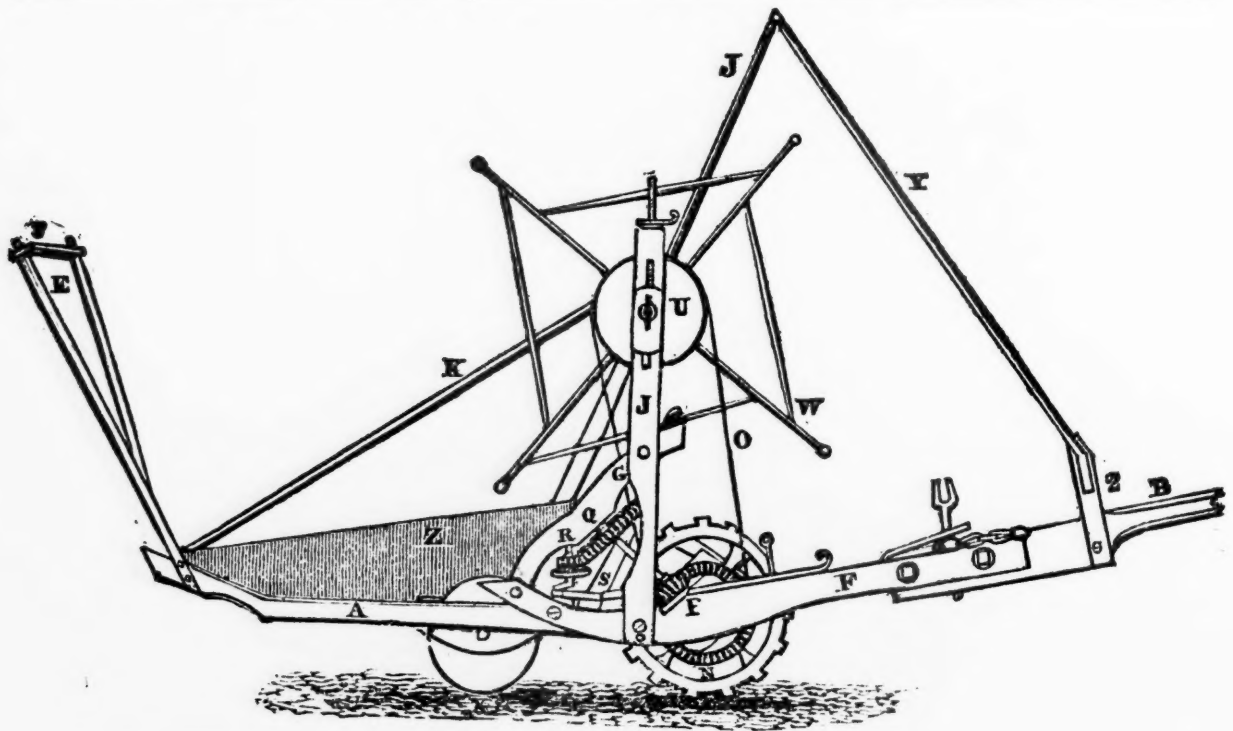
The *bough* to be put further out or in, to suit grain more or less tangled, by the distance which the hind end is made to pass through the frame of the platform. *Dividing-iron* by its moveable groove to be raised or lowered to suit the height of the reel.

*The Reel.*—Its height is regulated altogether by the grain to be cut, being placed only so low usually as to operate well upon the *short* grain that may be in the piece to be cut—observing to have the two ends of equal height, or the band would not run fairly upon the pulleys, which, in the *first place*, must be so placed upon the shaft that the band will work properly upon the iron pulley below. By means of the reel-screw the band is kept tight, and by the buckle it is taken up as it stretches—tail of the band behind.

*The Lever* puts the blade out of gear when the machine runs without cutting. Long end of the *Yoke* next to the grain, and hole in it turned up or down to suit high or low horses—ends fastened to the horses with leather straps—off horse to be borne off by a stick. To prevent accident put nails in points of keys, and at corners of screw-taps—a tack in the point of the driver-key when the followers are tightened—point of the key to be cut off when driven up—*Connecting-pin*, followers, &c., to be renewed of *hard* wood when necessary—though not often—put pins in oil-holes to keep out sand—grind the *blade* on smooth side when necessary.

*Operation*—At the commencement of harvest, when the wheat is often somewhat green and *heavy*, and the hands *unskilled* in the use of the *rake*, it must be expected that raking the wheat from the machine will be laborious, which, however, will become less and less so, as wheat ripens and hands acquire the art. The raker must walk well for-

ward, and close to the machine, and throwing his rake entirely across the platform with a limber action, must take a strong hold upon the heads of the wheat, and at a quick draw bring it off without halting, rather against and behind his left, never before him. The heads must be drawn round, so that the butts will be left pretty much



SIDE VIEW OF REAPING-MACHINE.—FIG. 49.

toward the standing wheat, and *very neatly* when understood.

Shove back the wheat upon the platform after bringing off the sheaf (or more) so as to prevent a trail. In *heavy* wheat the raker and rider usually change places. At times, in short or in tangled grain, it may be found necessary to move it slightly upon the platform with the rake, before drawing it off, as a relief to the cutting. Horses should be kept close to the wheat.

C. H. MCCORMICK.

#### ALABAMA MARL.

WE have received from Alexander McDonald, Esq., of Eufala, Alabama, a sample of blue marl for analysis. To do this minutely would cost \$5, we have therefore handed it over to Dr. Gardner for a general opinion of its merits, which will be found below. Dr. G. pronounces it a substance of considerable value, especially on clayey soils. Mr. McD. writes, "I have this year hauled up 400 bushels and spread it over my garden, mixed with compost manure, and I have never seen a more rapid growth of vegetation in my life."

We also received by the same conveyance, a sample of Mr. McD.'s premium cotton grown upon his farm last year, and spoken of page 221 of our last No. The lot from which this sample was taken, we are informed by Messrs. Cahoon, Kinney, & Co., cotton-brokers in this city, sold for at least one half cent per pound more than any other of a similar quality brought to New York last season. It was considered very superior.

Mr. McDonald writes us that crops are promising fairly in Alabama, though the stand of cotton and corn is rather small for the season; and that formidable enemy of cotton, the louse, has been somewhat destructive. He regrets that planters

in that region confine themselves so exclusively to corn and cotton, and do not cultivate, as at the north, a more general rotation of crops.

We need not say that we shall be happy to hear from Mr. McDonald in his agricultural tour to Tennessee. We observe by the Southern Shield, that the Barbour County Agricultural Society had a spirited meeting at Glennville on the 29th May last. At the close of the proceedings Mr. McD. proposed the formation of two Farmers' Clubs, one at Glennville, and another at Eufala. We can not but hope that his proposition will be carried into effect, for such clubs have a beneficial influence wherever formed.

New York, July 9th, 1844.

DEAR SIR: I have examined the specimen of marl from Mr. McDonald of Alabama, in the manner you suggested. It contains from 5 to 10 per cent. of lime; but the quantity may be greater in different specimens, for it depends upon, and is according to the number of shells in it, so that wherever the marl has the whitest appearance, the quantity of lime will be greatest. The specimen is remarkable for the large quantity of silicate of potash it contains, perhaps as much as 10 to 15 per cent.

I have not examined it in other points of view. The basis is a fine sand, and the whole evidently of the tertiary geological formation. There is no question that it will prove a good fertilizer, especially on stiff lands of clayey basis; it will also be applicable to calcareous soils from the silicate of potash it contains. Wheat, oats, rye, corn, and grasses will be particularly benefited by it. The



applications must be on a large scale because of the great insolubility of the silicate.

I take this opportunity of making a fact, recently discovered, known to your southern subscribers, which is important to the cotton-grower. That staple hitherto unexamined, is now found to contain a large quantity of phosphate of lime, (bone-earth,) so that 25 per cent of the ashes, which average 4 per cent. of the cotton consists of phosphates. Moreover phosphates applied in manure have been seen directly to benefit the crops in South Carolina. Shell-marls, the more shelly the better, always contain some phosphate, sometimes as much as 2 per cent. Such will therefore be

found invaluable in the cotton regions of Alabama, Louisiana, Mississippi, &c., and ought to be eagerly sought for and even imported where amendments are wanting. Bones ground or reduced to a coarse powder contain about 50 per cent. of phosphate and must not be overlooked. Guano sometimes contains as much.

I have not examined the specimen submitted for phosphates, there probably is but a small quantity; if, however, in any part of the formation whence it is derived, the mass is almost entirely of shells, a fair per centage may be expected.

Yours truly, D. P. GARDNER,  
Lecturer on Agricultural Chemistry.

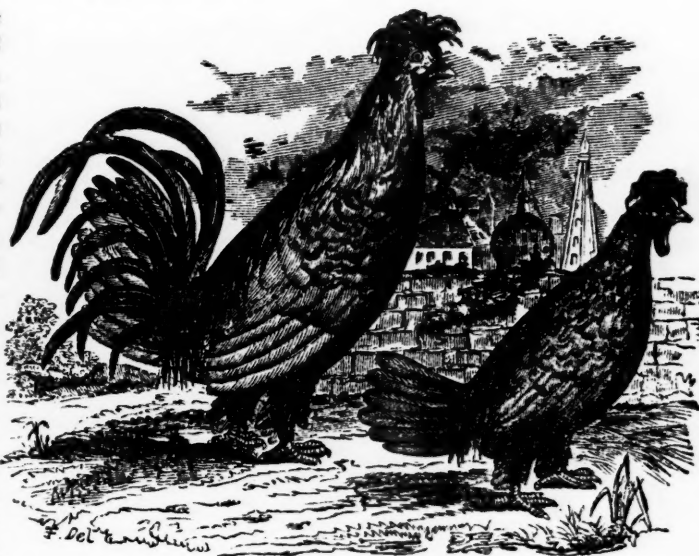
#### RUSSIAN FOWLS.—Fig. 50.

A FEW of this very singular and unique variety of fowls, were imported in 1842 from Moscow, by Dr. Wight of Boston, from which our portraits were taken. In a letter accompanying the portraits, the Doctor says, "I herewith send you a rough sketch of a cock and hen of the Russian or Siberian fowls. They came to hand a few weeks since, and are perfectly described in Dickson on Poultry. These were procured for me from Moscow and answer the description well, except that the feathers on the legs are quilled, which they will probably lose in the next generation, our climate being so much milder than that at Moscow."

According to Latham this breed differs from others in having large tufts of brown feathers springing from each joint, and some longer and fuller, like a Jew's beard, from the lower mandible. There is a tuft of upright feathers, of the same silky texture, springing from the backside of the head in the hen. The cock has a comb and wattles, the hen a comb only. This bird came from Moscow, and has fine variegated colors. The legs are covered with fine ordinary feathers; some have the plumage of the game-fowl, a fine tawney orange, spotted with black, and are highly esteemed in Scotland for prolific laying.—*Bement's Poulterer's Companion.*

#### MEXICAN SHEPHERD-DOG.

ALTHOUGH Mr. Kendall and some other writers have described this wonderful animal as a cross of the Newfoundland-dog, such, I think, can not be the fact; on the contrary, I have no doubt he is a genuine descendant of the Alpine Mastiff, or more properly, Spanish shepherd-dog introduced by them at the time of the conquest. He is only to be found in the sheep-raising districts of New Mexico. The other Mexican dogs, which number more than a thousand to one of these noble animals, are the results of a cross of everything under the sun having any affinity to the canine race, and even of a still nobler class of animals if Mexican stories are to be credited. It is believed in Mexico, that the countless mongrels of that country owe their origin to the assistance of the various kinds of wolves, mountain cats, lynxes, and to almost if not every



four-footed class of carnivorous animals. Be this as it may, those who have not seen them can believe as much as they like; but eye-witnesses can assert, that there never was a country blessed with a greater and more abundant variety of miserable, snarling, cowardly packs, than the mongrel dogs of Mexico. That country of a surety would be the plague-spot of this beautiful world, were it not for the redeeming character of the truly noble shepherd-dog, endowed as it is with almost human intellect. I have often thought, when observing the sagacity of this animal, that if very many of the human race possessed one half of the powers of inductive reasoning which seems to be the gift of this animal, that it would be far better for themselves and for their fellow-creatures.

The peculiar education of these dogs is one of the most important and interesting steps pursued by the shepherd. His method is to select from a multitude of pups a few of the healthiest and finest-looking, and to put them to a suckling ewe, first depriving her of her own lamb. By force, as well as from a natural desire she has to be relieved of the contents of her udder, she soon learns to look upon the little interlopers with all the affection she would manifest for her own natural offspring. For the first few days the pups are kept in the hut, the ewe suckling them morning and evening only; but gradually, as she becomes

accustomed to their sight, she is allowed to run in a small enclosure with them, until she becomes so perfectly familiar with their appearance as to take the entire charge of them. After this they are folded with the whole flock for a fortnight or so, they then run about during the day with the flock, which after a while becomes so accustomed to them, as to be able to distinguish them from other dogs—even from those of the same litter which have not been nursed among them. The shepherds usually allow the slut to keep one of a litter for her own particular benefit, the balance are generally destroyed.

After the pups are weaned, they never leave the particular drove among which they have been reared. Not even the voice of their master can entice them beyond sight of the flock; neither hunger nor thirst can do it. I have been credibly informed of an instance where a single dog having charge of a small flock of sheep was allowed to wander with them about the mountains, while the shepherd returned to his village for a few days, having perfect confidence in the ability of his dog to look after the flock during his absence, but with a strange want of foresight as to the provision of the dog for his food. Upon his return to the flock, he found it several miles from where left, but *on the road leading to the village*, and the poor faithful animal in the agonies of death, dying of *starvation*, even in the midst of *plenty*: yet the flock had not been harmed by him. A reciprocal affection exists between them which may put to blush many of the human family. The poor dog recognised them only as brothers and dearly-loved friends; he was ready at all times to lay down his life for them; to attack not only wolves and mountain-cats, with the confidence of victory, but even the bear, when there could be no hope. Of late years, when the shepherds of New Mexico have suffered so much from Indian marauders, instances have frequently occurred where the dog has not hesitated to attack his human foes, and although transfixed with arrows, his indomitable courage and faithfulness have been such as to compel his assailants to pin him to the earth with spears, and hold him there until despatched with stones.

In the above instance the starving dog could have helped himself to one of his *little brother* lambs, or could have deserted the sheep, and very soon have reached the settlements where there was food for him. But faithful even unto death, he would neither leave nor molest them, but followed the promptings of his instinct to lead into the settlement; their unconsciousness of his wants, and slow motions in travelling were too much for his exhausting strength.

These shepherds are very nomadic in character. They are constantly moving about, their camp-equipage consisting merely of a kettle and bag of meal; their lodges are made in a few minutes, of branches, &c., thrown against cross-sticks. They very seldom go out in the day time with their flocks, intrusting entirely to their dogs, which faithfully return them at night, never permitting any straggling behind or lost. Sometimes different flocks are brought into the same neighborhood owing to scarcity of grass, when the wonderful instincts of

the shepherd's dogs are most beautifully displayed; and to my astonishment, who have been an eyewitness of such scenes, if two flocks approach within a few yards of each other, their respective protectors will place themselves in the space between them, and as is very naturally the case, if any adventurous sheep should endeavor to cross over to visit her neighbors, her dog protector kindly but firmly leads her back, and as it sometimes happens, if many make a rush and succeed in joining the other flock, the dogs under whose charge they are, go over and bring them all out, but strange to say, under such circumstances they *are never opposed by the other dogs*. They approach the strange sheep only to prevent their own from leaving the flock, though they offer no assistance in expelling the other sheep. But they *never permit* sheep not under canine protection, nor dogs not in charge of sheep, to approach them. Even the same dogs which are so freely permitted to enter their flocks in search of their own are driven away with ignominy if they presume to approach them without that laudable object in view.

Many anecdotes could be related of the wonderful instinct of these dogs. I very much doubt if there are shepherd-dogs in any other part of the world except Spain, equal to those of New Mexico in value. The famed Scotch and English dogs sink into insignificance by the side of them. Their superiority may be owing to the peculiar mode of rearing them, but they are certainly very noble animals, naturally of large size, and highly deserving to be introduced into the United States. A pair of them will easily kill a wolf, and flocks under their care need not fear any common enemy to be found in our country.

J. H. LYMAN.

#### RAISING TURKEYS.

HERETOFORE I have had so much difficulty in raising turkeys as to be almost discouraged, but of late have been very successful, in consequence of pursuing the following mode recommended to me by a lady, who said that she had no trouble with them.

When first hatched give no feed for 24 hours, then give a little *curd* made from buttermilk, increasing the quantity as they grow older, at the same time feeding the hen with whole corn. They should be secured from the wet, and by no means have Indian meal; but with the curd they may have in moderate quantities, wheat-bread soaked in buttermilk or crumbs of the same. I believe Indian-meal is fatal to the greater part of the young turkeys which die in the attempt to raise them. To allow them to wander too much is attended usually with considerable loss. I have found it a very good plan to make an enclosure of boards 6 feet square or so, and 12 to 18 inches high, and set this in a grass field during fine weather, in which to confine the young turkeys. This is removed occasionally from place to place, the chickens thus get all the fresh green food they may need, besides an abundance of insects.

CHARLES STARR, JR.

Mendham, N. J., July, 1844.



# REVIEW OF MR. DANA'S CHEMISTRY OF SOIL.

In my last I promised to review Mr. Dana's chemistry of soil, which I regret having undertaken, for the whole essay is such a jumble of mineralogical, chemical, and logical errors, as almost to defy criticism.

Page 22, Mr. D. says, "Elements are substances which have not as yet been proved to be compound. Minerals are called simple which have certain definite, external, physical characters, though they may be composed of several elements. Rocks are called compound, which consist of several simple minerals, as granite which consists of quartz, felspar, and mica."

So, according to the logical acumen of Mr. Dana, compound minerals are simple minerals. We must bear in mind that this is in a treatise on the chemistry of soil.

Page 23, "The mineralogist merely names his mineral, labels it, and places it in his cabinet."

From several other observations of Mr. Dana's, he intimates, that a mineralogist knows nothing of the chemical constituents of minerals. There is a wonderful aptitude in the human family, each one to consider himself as the standard of perfection, and to measure everything by that standard; yet St. Paul tells us this is not wise. As Mr. D. has displayed such total ignorance of the components of primitive rocks in his geology of soil, he must conclude, of course, that all mineralogists are equally ignorant. I have been personally acquainted with scores of mineralogists, and never found one, until Mr. Dana, who could not give a tolerably accurate description of the chemical constituents of any mineral in his cabinet. The names given to many minerals give no indication of their chemical components; but he must be a poor mineralogist who is ignorant of them.

Mr. Brande says, "Mineralogy is a branch of physico-chemical science, which teaches the properties, composition, and relations of mineral bodies, and the art of distinguishing and describing them."

"There is no branch of science," says Sir J. Herschel, "which presents so many points of contact with other departments of physical research, and serves as the connecting link between so many distant points of philosophical speculation, as mineralogy. To the geologist, the chemist, the optician, the crystallographer, it offers especially the very elements of their knowledge."

Pages 23 and 24, Mr. Dana goes on to say, "The mineralogy of agriculture is no more than this, that the farmer be able ever to connect with a certain name, a certain chemical composition."

"The amount of this mineralogical knowledge is very limited. Seven simple minerals compose all rocks, viz; quartz, mica, felspar, hornblende, talc, serpentine, carbonate of lime. Other minerals are found in, but these seven compose all rocks termed geological formations, and which form the crust of the globe."

"The chemical constitution of rocks, the nature, properties, and relations of their elements, proves to be of the highest value, when it is known that the elements of these seven minerals are also the earthy parts of all plants."

It appears that Mr. D. has at last brought in carbonate of lime among rocks termed geological formations; although, at page 21, in his geology of soil, he merely gives 90 per cent. of siliceous, and only 85 of one per cent. of lime, and never mentions lime as having any existence in geological formations. As he has grouped lime among the primitive rocks, I presume he refers only to what is termed primitive lime-stone, not knowing probably that any of a newer formation had existence.

Let us compare the minerals forming the crust of the globe as given at page 8 of Mr. Dana's manual, with that at pages 23 and 24 in his chemistry of soil.

Page 8.	Pages 23, 24.
1st series. Granite, Gneiss, Sienite, Greenstone, Porphyry, Basalt, Lava, Volcanic sand.	Quartz, } Mica, } These three Felspar, } form Granite. Hornblende, Talc, Serpentine, Carbonate of lime.
2d series. Sand, Clay, Gravel, Puddingstone, Conglomerates, Sand-stones, Slates.	

I consider myself as a very indifferent mineralogist, yet I could not have committed the egregious blunder of grouping mica and talc as two distinct species of primitive rock, when it is well known, by the merest tyro in the science, that they are both of one species; talc being the sixth subspecies of rhomboidal-mica. See Professor Jameson.

Pages 24, 25, "Of the fifty-five elements, fourteen are found in rocks. This includes the elements of water, or oxygen, and hydrogen. Excluding the last, and retaining oxygen in its various compounds, there remain twelve substances only in rocks. Of the earthy and metallic eight; and of the volatile and combustible, four only are found in soil. These all are called by names so familiar, that their enumeration conveys at once an idea of their distinguishing properties. These twelve substances are divided, for the convenience of the farmer, into three classes. First, silicates—second, urets—third, salts. The term urets, is here only used provisionally, and it is by no means intended to burden science with a new name, an act to be deprecated, where an old one will as well answer. But there is no old term, which includes the substances to which, in the present subject, reference must be frequently made. It is more convenient to one to use a new term defined, than to enumerate by name, several substances, whose action in agriculture has a common character, whenever this action is mentioned. The word inflammable, or acidifiable combustible, the usual chemical designation might be used. But the farmer wants some more expressive term, which while it conveys all that is intended by the common word, shall also remind him of the peculiar character of those compounds with metals, and with each other, which

by common consent ends in 'uret.' This word from the Latin, *uror*, to be burned, seems well adapted to express the character of inflammability, while, by its addition to carbon, &c., it forms the common chemical designation of the class when combined with metals."

According to Mr. Dana, the old names were so familiar, that their enumeration conveyed at once an idea of their properties; yet he undertakes to find what he terms a new name in place of the word inflammable, or acidifiable combustibles, and he takes the Latin word "*uror*," to be burned. By turning it into "*uret*," he establishes a generic term for all inflammable substances. The term "*acidifiable combustible*," also originates with Mr. D. Now it happens that some of the combustibles produce no acids, therefore Mr. D. must find another generic term to contra-distinguish these from the acidifiables.

Can it be possible that Mr. D. is so ignorant of the science of chemistry, as not to know that the term *uret* has been used from the commencement of the science, and can be found in every chemical nomenclature and dictionary, that have been published? Does he not know that there are such terms as carb-uret, sulph-uret, phosph-uret, tell-uret, &c., &c., and used to describe the action of inflammable substances on metals, &c.? If Mr. D. had not informed us that he introduced it as a new term, we could not have given him credit for so large an amount of ignorance. He may rest assured, however, that when the chemical nomenclature requires altering, some one will be called upon to work it out, who understands the science.

It would have been much to the credit of Mr. D. had he submitted his manuscript to some scientific friend, and that friend could have persuaded him to have "*urorised*" it, instead of sending it to press. By such a chemical process he would not only have saved his own credit, but have prevented our farmers from reading a babelous confusion of nonsense under the cognomen of science.

It appears throughout Mr. Dana's work, that instead of making his manual plain to the farmer, he has gone out of his way to find isolated terms, some of them never having had existence in any creditable scientific work; and what is worse, he applies the selected terms in a way to make confusion worse confounded. Look at his organic constituents of soil, how he misapplies the term "*isomorphism*," pages 56, 57, and 58. Again, page 59, where he explains the term "*geine*." He says, "*Ge* is the Greek for earth, and the suffix *ine*, is in conformity to chemical names given to those vegetable or other organic products, whose independent existence has been determined; for example, quinine, morphine, &c." Our farmers would scarcely suppose that *geine* means merely the elements of the earth, and is as foreign from quinine and morphine, as Mr. Dana's manual is from true science. Again, page 60. "The first class, or non-nitrogenous, comprises three substances, which have been termed, 1st, extract of soil, or of humus; 2d, *geine*, or humic acid; and 3d, carbonaceous soil, or humin. These are chemically the same, passing from one state to the other, without changing the relative proportions in

which they are combined." This is dancing a chemical trio very comically.

I can follow Mr. Dana no farther; his work is anything but scientific, and he has clearly shown us that he is unacquainted with geology, mineralogy, and chemistry. The work he has published is a curious jumble concocted in the brain of the writer, never having had any existence in acknowledged scientific works.

This work of Mr. Dana's has unfortunately been used by many of our intelligent agriculturists as a text-book, who have adopted the non-chemical terms, *uret*, *humin*, *geine*, *geinic acid*, *humic acid*, &c., without attaching any definite meaning to them. On attending some of our farmers' clubs in New York, I frequently heard them talking very learnedly on *humus*, *uret*, *geine*, &c., and never could conceive, until I read Mr. Dana's manual, where they obtained those terms. I know not what Mr. D. may think of imposing a confused mass of information on our farmers, under the sanction of mineralogy, geology, and chemistry, just as science began to be applied to agriculture, misleading them, and thereby bringing science into disrepute. Mr. Dana is not the only specious scientific writer in the field, they are springing up in every direction as thick as hops; and our farmers must be on their guard, or they will suffer severely in their pockets as well as in their minds, by these mushroom pretenders. What we want are facts, such as have been given by Mr. Pell and others; and when a series of such-like facts are collected to form the base, a science of agriculture can be reared that will benefit the human family for all future generations.

WM. PARTRIDGE.

N. B. In a few months, when I have time, I shall take a peep at Mr. Dana's prize Essay on Manures.

Having in our last volume given an able series of articles from the pen of Dr. Philips, an eminent practical planter of Mississippi, on the culture of Short Staple Cotton, we have now the pleasure of laying before our readers one equally deserving their attention, on that of the Long Staple. The respected writer of this has had 50 years' experience in the cultivation of Sea-Island Cotton on the coast of Georgia, and whatever he may have to say upon this subject, will be found worthy of attention. We feel no less honored than obliged, that gentlemen so truly practical and well qualified, should favor us with their communications on these interesting and highly useful topics.

#### CULTURE OF SEA-ISLAND COTTON.

THE Sea-Island cotton was introduced into Georgia from the Bahamas; the seed was from a small island near St. Domingo, known as Arguilla, then producing the best cotton of the western world. It in no way resembles the Brazil cotton which is the kidney-seed kind, introduced some years later, and which after trial, was rejected in Georgia.



This seed came in small parcels from the Bahamas in the winter of 1785. It gradually and slowly made its way along the coast of Georgia, and passed into Carolina, from the year 1790, to 1792. The winter of 1786 in Georgia was a mild one, and although the plants of the Sea-Island cotton that year had not ripened their seed; it being a perennial, and subject only to be killed by frost, it started the next season (1787) from the roots of the previous year, its seed ripened, and the plants became acclimated. Many changes have come over this seed since that time from difference of soil, of culture, and local position; and above all, from careful selection of seed. But it requires to be discovered, that what is gained in fineness of wool, is lost in the quality and weight of the product; for in spite of a zeal and intelligence brought to act upon the subject without parallel, the crops are yearly diminishing; until to grow Sea-Island cotton is one of the most profitless pursuits within the limits of the United States. (a)

*The Culture.*—When the Sea-Island cotton-seed was introduced in 1786, it was planted in hills prepared upon the level field, at five feet each way; but it was soon learned, that of all plants that grow, it is in its first vegetation and early stage the most tender; liable to suffer by storms, by wind, by drought, and by excess of rain. The quantity of seed was therefore increased, and the plants multiplied, until, as in most other cases, one extreme produced another. For many years, however, among experienced planters, the course is to divide their enclosed fields, into two portions; the one at rest, the other in culture.

*Preparing the Land for the Crop.*—Early in February, any hands not engaged in preparing the previous crop for market, are employed in cleaning up the rested fields, and either in burning off the fennel-weeds and grass of the previous year, or in listing them in at five feet apart, to serve as the base of the future ridges or bed. There is much difference of opinion, upon the subject of burning or listing in; for myself, I am inclined to take the first opinion, believing that the light dressing of ashes the field receives from burning off, is more beneficial to the soil than the decay of the vegetable matter, and renders it less liable to produce what is a growing evil, the rust, a species of blight, much resembling the rust or blight upon wheat, and which takes place about the same period, just as the plant is putting out and preparing to ripen its fruit. (b)

*Ridging.*—The land being listed in short lines across the entire field, at five feet apart, the operation of ridging is commenced about the first of March. The ridges occupy the entire surface; that is, the foot of one ridge commencing where the other ridge ends, and rising about eight inches above the natural level of the land, thus presenting a surface almost as smooth, and almost as deeply worked as a garden-bed. This ridging is carried on but a few days ahead of the planting. The ridge, if the operation has been carefully done, is from 2 to 2½ feet broad at top; it is then trenched on the upper surface with the hoe, six inches wide, and from three to six inches deep, depending upon the period of planting.

*Planting.*—In the beginning, if the seed is covered more than two inches with soil, the soil will not feel the influence of the sun, and the seed will not vegetate later; that is, in April up to the first of May, you must give from 3 to 4 inches of covering to preserve the moisture, or there, too, you fail from an opposite cause, the wind and burning influence of the sun drying the soil too much for vegetation. In most countries, after sowing the seed the roller is applied; but in cotton-planting, in our ridge-husbandry, the foot in covering the seed and pressing down the earth well supplies its place.

*Quantity of Seed per Acre.*—A bushel of seed is generally sown to the acre, I believe half a bushel is better; for where the evil comes, whether the worm, or wind, or drought, or wet, there is no security in the many; but on the contrary, where they come up thin, they soon grow out of the way of injury from any enemy.

*After-Culture.*—The cultivation of Sea-Island cotton is carried on by the hand-hoe, and the quantity always limited to four acres to the laborer. The operation of weeding commences as soon as we finish planting, because in our flat and sandy soils the grass-seed springs with the first growth of the cotton, and by the time we finish planting, say the first of May, what we planted in March requires the hoe. The land is kept in the operation of hoeing and weeding as far as may be, at its original level, the beds neither increased or diminished, that rains which generally fall with beating power, and in redundant quantity, in the month of August, may as little as possible injure the growing plants, which are then in full bearing. The young cotton is thinned out slowly at from six to twelve inches apart on the ridge, by the 10th of June. As soon as the rains commence, which is about the last of July, it is wise to leave nature to herself, and no longer disturb the soil; four hoeings if well done, and the grass well picked at each hoeing, is enough: nor does any after-growth of grass do injury.

*Manures and Soiling Stock.*—For ten years past, great efforts have been made by the Sea-Island planters, in manuring. Much of the alluvion of our salt rivers have been collected, and sometimes placed directly in heaps through the fields at rest, at other times placed in cattle-pens, on which cotton-seed, and all waste materials are strewn, and the cattle pounded up on it. But what is preferred, is to pen our cattle near the river at night, and cut salt-grass, which covers these alluvion lands, and which is as nutritious as so much clover. Many planters now employ laborers to cut the grass for horses and cattle, from the first of May till the last of November, the task required is generally a cord of grass to the hand; and this quantity will answer for 10 horses, or 15 head of cattle, for the night. Benefit has resulted from this course in the ratio of the extent to which it has been persevered in. The last year, Mr. Ruffin discovered that all South Carolina was underlaid by shell-marl, at various depths; from my own observation, and inquiries from others, I find the same thing exists in Georgia. Great benefits will result from this, I have no doubt, hereafter, de-

pending much upon the discretion that is used in the quantity applied, which had better be too little I think, than too much. (c)

*Amount of Crop per Acre and Picking.*—It has been stated already, that 500 lbs. to the acre is about the medium crop, which at 20 cents per lb., (more than the actual price for the last three years,) is to the planter \$100 for gross-crop; and from this hundred dollars is to be subtracted bagging, freight, expenses of sale, clothing for his people, medical attention, and too often provisions. Is this man to be envied?

In picking the Sea-Island cotton from the field, the same disproportion exists with his interior brethren, as in the other operations on the crop. From the exposure to sea-wind, and the necessity of guarding against every possible injury to the staple, the fields have to be picked over every two weeks, commencing in August, and ending in December; so that few planters receive from their people more than 25 lbs. of cotton per day during the picking season.

*Preparation for the Market.*—The Sea-Island cotton is now almost exclusively separated from its seed by the foot-gin, two wooden rollers placed the one over the other in a frame. The rollers are one inch in diameter, about a foot long, and are inserted in an iron journal supported by the frame; upon this journal a fly-wheel 30 inches in diameter is placed, the journal after passing through the fly-wheel has a crank to which the treadle worked by the foot is attached; the fly-wheel is to give a circular motion by the tread of the foot. This gin generally separates 25 lbs. of cotton per day to one hand. The whole labor of preparing a bag of 300 lbs. of cotton, in sorting the cotton for the gin, in ginning, and in moting after the gin, in again examining it, and in packing, my friend Mr. Seabrook of South Carolina, puts down at 54 days' work. I have estimated it at 60. Thus a bale of cotton worth \$60, has cost after the cotton has been gathered into the house, 60 days' labor.

*Locality of Sea-Island Cotton, Original Growth of the Lands, and Aborigines.*—The Sea-Island cotton of the best quality is grown upon islands bounded by the sea on one side, and to the west by salt-rivers and salt-marsh. These islands extend from Charleston in South Carolina, to the river St. John's in Florida, including the whole coast of Georgia. This space may be considered 250 miles, between which points there is a safe navigation for open boats, and for dragging vessels of 100 tons capacity. These islands were originally almost exclusively covered with live oak, and from them the navy of the United States has been entirely built. These live-oak groves once swarmed with Indian tribes who communed with Sir Walter Raleigh and General Oglethorpe with confidence and friendship. Everywhere you find barrens scattered through the cotton-fields, constructed exclusively of oyster-shells. Indian bones and Indian pottery, and other remains, tell distinctly here, in ages past, that the red man lived and died.

*Healthiness of Climate.*—Volney, in his American tour, says that "the climate of this coast is the best in the United States, from Rhode Island south," and this my own experience confirms; car-

rying more men into old age, than any other I know of; here too has been little change of inhabitants for one hundred years past—the son clinging to the home of his childhood, and to the grave of his father. (d)

THOMAS SPALDING.

*Sapelo Island, Ga.*

(a) We beg leave to ask for information; is not this diminishing in the yield per acre, owing to the land being exhausted in a measure by severe cropping, of the proper food essential to grow the cotton? And were this material necessary for its growth, again supplied in the shape of manures, and a rotation of other crops, might we not expect, then, the same weight of cotton per acre as was obtained from the virgin soil? It was by continual cropping that the western wheat-fields in this state (considered at first inexhaustible) at length so rapidly deteriorated in their yield; and it is by the use of manures, such as plowing in green clover, adding lime, plaster, charcoal, ashes, &c., that these fields are now yielding larger crops, occasionally, than even in their pristine state. We doubt whether the alternate year of rest spoken of in the next paragraph by our correspondent, is sufficient to restore *all* the elements necessary for the growth of the cotton-plant; at least we have not found it so here in wheat, corn, and some other products; but having no experience ourselves in the culture of cotton, we speak hesitatingly, and can only reason from general principles.

(b) Our correspondent is unquestionably correct here in regard to the rust or blight; for we know in growing wheat, that it is far more likely to be thus attacked sowed directly after plowing in green crops, or fresh manures like those from the stable, abounding largely with organic matter. Lime, ashes, charcoal, sea-mud, marl, or fresh muck, (swamp-earth,) made into a compost with lime or ashes, as spoken of here in a subsequent paragraph by our correspondent, and used as a top-dressing, would be much less likely to be followed by rust, than the green crops plowed in as detailed above. We believe that manures, and above all, a *rotation of crops*, is as necessary for the south as the north, and we should feel greatly indebted by a series of articles on this subject from any of its intelligent planters.

(c) This has been proved by Gov. Hammond's experiments on marling, where he found a moderate quantity beneficial, and a large quantity hurtful—at least for the first two or three years. See our July number, page 221, second column. In New Jersey, excessive marling, especially in Monmouth county, so far from being prejudicial, has proved as we are informed, to be their best system—300 to 400 loads are put on to an acre in the same season. But it must be remembered that marl greatly differs in its composition; this spoken of in New Jersey, is supposed to be the upheavings of the ocean, and is much like sea-mud, abounding in rich organic matter and marine-shells, which immediately crumble on being exposed to the air, and become lime.

(d) We are glad to hear this. Excessive emigration is the curse of our country, and we doubt whether one fourth of those wandering forth into



new regions better themselves by the change; while on the other hand, thousands die, or become hopelessly diseased, or prematurely old.

#### SOUTHERN AGRICULTURAL IMPLEMENTS.

THE consideration you have shown for the wants of the south, in your frequent articles upon implements suited to us, induces me to add my mite of information. I sent you a number of the Concordia Intelligencer, containing the reports of committees at our last agricultural show, and since then wrote you at some length on the trials of implements. Let me again urge you to impress upon your manufacturers of implements and machinery, and especially of plows, the great advantage they would derive, and the vast market they would open to themselves, by forwarding to our shows specimens of the articles they make. It is the determination of some few planters of us, here, to agitate the subject until we are supplied with such as we ought to have, and thus be enabled to meet the present low prices of cotton by an economy of labor.

Our heaviest item of plantation expense, is that for wrought-iron work; particularly to those, who like myself, have no blacksmith of their own. Until very recently, the most simple kind of work in iron cost 25 cents per pound—now it costs a general average of 18 cents. Even this I consider enormous. I should be glad to find a substitute as far as possible, in cast-iron. An excellent foundry recently established in Natchez, and which, *as yet*, charges only from 4 to 4½ cents per pound for castings, has enabled me to carry out my plans. And here I want information and advice. I infer from the fact of a people as sagacious and saving as the farmers of New England using cast-iron implements almost exclusively, that they must answer every purpose and be more economical. In Scotland, too, they are used to a great extent. But I have here such reiterated assurances that they will not answer, that I almost at times doubt about my own judgment. The objections are, the liability to break, extra weight, want of sharpness, and impossibility of supplying the want, and so on. Now tell us, how is all this?

We require, or rather we should have, a variety of implements. The great cost of everything but the common plow and hand-hoe, has prevented aught else being used. In some neighborhoods where there may happen to be good and ingenious blacksmiths, other implements are occasionally employed—such as the bull-tongue, or narrow single-shovel plow, for running on each side of the corn-row at the first tending; triangular, one-horse harrows; scufflers, or rough cultivators, with three to five teeth, somewhat like a common hoe; sweeps, skimmers, or spread-eagle or buzzard-plows; double-shovels, and double half-shovels, &c., &c. The cost and the difficulty of getting a good article, *sure to run well*, which is a great difficulty with wrought-iron implements not made by a master hand, has prevented even these improvements being commonly used. Cast-iron articles, with stocks so simple as to be easily made on the plantation, will I think meet those objec-

tions. Such a thing as Wilkie's horse-hoe will not suit us at all—too lengthy, complex, and expensive to put in the hands of a negro. Mr. Thorpe's three-share plow has the same objections, with the additional one of too great weight. Our teams can not drag along such a load of wood and iron as can your stronger animals, in a cooler climate—one animal only can be used to do the tending of the crop, which is done during the hottest season of the year, when one of our average-sized mules (which form our best and most economical teams) drags an implement weighing 50 or 60 pounds, ten hours in the day, between rows of tall cotton, corn, or cane, he has as much as he can possibly stand, and more, in many cases. Yet *he must do it*—there can be no cessation of work—everything on a cotton plantation, capable of working, *must work*.

Your northern-made implements cost us too much by the time we get them, passing through so many hands; and if we order them direct, we are buying a "pig in a poke," where we have only a published account and description to go by. It is on this account we are so desirous of seeing your northern implements well represented at our trial in the fall. You require a *heavy* as well as a strong plow, with great length of share and land-side to make it run steady in stony land. We *require* nothing of the kind. A plow, to suit us, must have *size*, and yet be light for man and beast—easy to handle among stumps and roots, on steep and short hill-sides, and among the young, delicate, and easily-injured cotton plants. When you send us a *light* plow, they are *so small* and slight as to be almost worthless—nothing but the merest *poney* will suit to hitch to them. We have no stones to trouble us, rarely any sod to cut—nothing but weeds and trash on light mellow earth—unless where almost ruined by being trodden by stock. Hence we require a plow that throws dirt well, not easily choked, and which turns a furrow 10 inches wide, and 5 to 6 inches deep, with two average-sized mules.

The best plow I have met with, *for all work*, is "Hall's Improved Peacock," No. 2, made in Pittsburg. It is a good sized breaking-plow, for two common-sized mules; covers up trash well, and of course, ridges well; cost I think, \$6.50 or \$7; is strong, yet light and handy. For a regular breaking-plow, on land not *too* hilly, and with a moderately strong team, and particularly where there is a stiff sod, or the ground has been trodden by stock, I have seen nothing to equal the Eagle Plow of Ruggles, Nourse, & Mason, with coulter and wheel—both of which are indispensable—which was tried at our last show. I afterward purchased it at \$13, (too high a price,) and find it does excellent work. I sincerely hope that this and other firms will see fit to forward for trial here in October, specimens of their different sized plows and other implements; the more as you will observe that the Messrs. Holmes (of Natchez and Boston) will convey them, for that purpose, from Boston free of cost. This would open up a new and extensive market to them. Corn and cob-crackers, fanning-mills, grist-mills, thrashing-machines, straw and stalk-cutters, corn-shell-

cradles, steel hoes, gin-stands, &c., are all in demand. If the makers of Batchelder's planting-machine have improved that excellent implement, so as to give it a little more strength, and to permit the attendant to see the corn as it drops, he may send one to our trial with the certainty of introducing it here. If it operates as the specimen one I had tried at Cincinnati, I will agree to purchase the one sent, and hand over the price to the president of our society to be remitted him. The objection made to it in the west, that it will not drop in hills that can be tended both ways, is no objection here, as we tend everything in drills. I know of no implement that would be of equal value to the planter.

THOMAS AFFLECK.

*Ingleside, Adams Co., Miss., 27th May, 1844.*

With respect to cast-iron plows, if properly made from good materials, and the mould-board ground and finished smooth, it works as easily, is as strong for all general purposes, and lasts as long, as the wrought-iron implement. In regard to supplying the south, we shall confer with our mechanics, and endeavor to meet Mr. Affleck's wishes.

#### A SHEEP-TROUGH.

I HERE give you a description of my sheep-trough, which I consider a very good one. Take two boards 8 inches wide, of common thickness and any length you may wish the trough. Lap the edge of one board over the other the whole length; then nail the two together; a cross section of the trough will thus form the letter V. Now take a piece of board or plank 14 inches wide, and 12 inches in length, and nail on to each end of the trough, so that it will stand about 8 inches from the ground. This finished, nail a strip of board about 3 or 4 inches wide to the middle of each end, so that it will come up 12 or 14 inches above the upper edge of the trough, then take a piece of board of the same width, and the whole length of the trough, and nail on to the top of the last named pieces; this will prevent the sheep from getting in to the trough and dirtying their feed, so that they will not eat it, and it will prevent them from jumping over it, thus we may always have a clean trough, which I find a very good thing. I have 30 ewes and 21 lambs that I feed with sliced turneps and corn every day.

Practical experiments are what we farmers want, and how we can make our land produce the most with the least expense.

H. C. M.

*Miller's Place, Long Island.*

#### COAL-TAR AS A PAINT.

I THINK it would be well to call the attention of farmers to the use of coal-tar as a paint. The tar produced in coal gas-works is used extensively in England for painting fences, outbuildings, &c., and is being introduced in this country also. It never alters by exposure to the weather, and one or two good coats will last many years. It is the cheapest and best black paint that can be used. Our buildings are painted with it, all our apparatus

also; and even the wrought-iron pipe we place in the ground, is coated with it. I think if its advantages were fully known, it would be generally used throughout the United States. The government soak the bricks used in building the fort at Throg's Neck in this tar, which renders them impervious to water; and posts painted with it are protected from rot when put in the ground, as effectually as if they had been charred.

CHARLES ROOME.

*Manhattan Gas-Works, New York.*

#### IMPROVED FARMING IN MASSACHUSETTS.

DURING one of my late rambles in Massachusetts, I made the acquaintance of quite a young man who was bred a mechanic, but left with a poor worn out farm of 120 acres before attaining his majority. He felt so incompetent to manage this farm, and the prospect of a fair return from it for his labor was so unpromising, that he continued to work at his trade part of the time, and at grafting (which he had fortunately learned) at the proper season, and thus earned money enough to hire a man through the summer, and a stout boy through the year.

On his farm was one field of 20 acres which had been cropped with rye every other year, producing from 4 to 5 bushels per acre, the next year it would be left to lie fallow. This he seeded with clover, pastured sheep upon it three years, then planted it with corn and potatoes and made it completely mellow. After this crop was taken off in the fall, he sowed it with rye, bushed it in with a bush harrow made of white birches 20 feet long, inserted in a round pole 12 feet long, thus leaving the surface of the ground smooth and even. Plaster was then spread upon it at the rate of one bushel per acre, and the March following, on the same quantity of land, one bushel of red-top and Rhode Island-bent, 4 quarts of timothy, and 20 lbs. of large clover. Every seed seemed to take, for such a mat of grass I have seldom seen upon land. It has been regularly pastured every year since, and yields 2 to 2½ tons of hay to the acre, besides a large crop of fall-feed. His bog meadow he has drained and skimmed of its rubbish, carting the whole into his barn-yard, together with the muck from the ditches, and on this meadow now he has great crops of English grass. From under the old barn and sheds he has got out large quantities of salt-petre dirt; this he has mixed with other old manure, which has been accumulating for years, and with his yard manure he collected a sufficient quantity to enrich several acres of loamy land, from some of which he has obtained 36 bushels wheat per acre, and from 70 to 85 bushels corn, and on other parts of it seeded down to grass it is now producing 2½ tons, and in some instances 3 tons of hay per acre, and all these improvements have been brought about within a few years, without the aid of cash capital, or any other information than what he has gathered from reading agricultural papers.

Unless land can be properly prepared with manure and other stimulating articles, be plowed deep, well pulverized, judiciously seeded, and kept



clear of weeds, it had better lie fallow. *Too much* grass-seed, in my opinion, is *just enough*. This young man sows on his land intended for mowing, 20 lbs. of clover and 12 quarts of herds-grass per acre. I have been looking over some of the English statistics of practical agriculturists on seeding lands to grass, and find in some instances they put on as high as 47 lbs. per acre of mixed seeds, while many of our farmers do not put on to exceed 10 or 12 lbs., one half of which is frequently killed out by drought or freezing, and the stalks of the remainder are not near enough together to be neighbors, and after being mowed the land looks like a barren waste.

I find three kinds of clover-seed used here in Massachusetts; the large Dutch, the June, the southern, and the white-clover—all ripening at different seasons of the year.

A TRAVELLER.

#### AGRICULTURAL ERRORS.

MR. PARTRIDGE is doing a public service in exposing the errors of the chemists in many of their dogmas relating to agriculture. "Chemistry applied to agriculture" is quite the rage now-a-days. I like it. It shows that improvement and investigation are active among thinking minds. But whoever swallows all the assertions of *theorists* in chemistry, as applied to husbandry and the soils, is prepared to swallow a great deal of humbug. The people knew something even in Hesiod's and in Virgil's day, and parts of their practice have been valuable from that time to this. Study, accompanied by thought, and steady, intelligent application, only, will ascertain exact truth in all this matter. No man can become a thorough farmer unless he read considerably, and think a great deal more. With these we can approximate to something like truth, and learn a good deal. Different soils, with different localities, climates, products, &c., &c., require different investigation, and sound discrimination in determining the right practice for each individual in managing his own husbandry. This is a prolific and inexhaustible subject, and may well employ the strongest minds. Simplicity, however, for the American farmer, should be a prominent object in all his agricultural operations. Cheap land and dear labor is what we have to deal with. Of course the land must do all it can, and the labor is to be applied where the least will effect the most.

PUTNAM.

#### SOUTHERN CALENDAR FOR AUGUST.

MAKE it a matter of special attention to have everything in readiness for picking cotton. It will require only the same time to prepare, and if done in season there will be no detention. Therefore, examine baskets, sacks, gin-stand, running gear, presses, &c., and if anything requires repairing, do it immediately. Continue your improvements all spare time, such as grubbing up bushes, &c.; repairing fences and buildings, making shingles, and scaffolds for drying cotton, and collect forked stakes and poles for curing tobacco. Top cotton early this month if it was not done last.

Cut crab-grass and throw it into heaps, there to remain for a day, and then into heavy winrows until

cured. Gather fodder from late corn. Clear potato-plantings, designed for seed or slips. Thrash oats, rye, and wheat for fall sowing, to provide against loss of time from cotton-picking, when the seed will be wanted, and that the straw may be used to pack away peavines.

Prepare turnep-ground at once, if it has not been done before, and sow the seed about the middle of the month, rain or no rain. In the second volume of the American Agriculturist, Mr. Affleck of Mississippi, says: "Turneps are usually sowed in August or September, on ground enriched by penning the cows and other stock upon it some time previously, or what is still better, on a piece of newly-cleared land." Procure Dale's hybrid or any other good variety of seed, and sow half a pint to the acre. If the ground is not wet or there is not an appearance of immediate rain, it will be better to brush in the seed. The ground should be finely pulverized by the plow and harrow, then the brush will rather settle the earth to the seed than otherwise.

Cut such rice as may have ripened this month, and see it carefully stacked. Be careful to shut the water off the fields ten days at least before cutting.

About the middle of this month cotton will have sufficiently ripened to burst its covering, and will bear picking. Open the branches to the sun, that a freer circulation of air may pass through them, and the cotton will open sooner, and not rot in consequence of moisture.

Cut tobacco-plants as soon as they come to full maturity. This may be known by the leaves becoming mottled, coarse, and of a thick texture, and gummy to the touch; the end of the leaf, by being doubled will break short, which it will not do to the same extent when green. Do not cut it in wet weather when the leaves lose their natural gummy substance, so necessary to be preserved. When the cutting is to commence, procure a quantity of forked stakes, set upright, with a pole or rider resting on each fork, ready to support the tobacco and keep it from the ground. The plants should be cut obliquely, even with the surface of the ground, and should receive two or three smart raps with the back of the knife, in order to remove the sand or soil from the leaves; then tying two stalks together, they should be gently placed across the riders or poles, where they should remain in the sun until they become wilted. Then they should be carried into the drying-house and strung upon frames, leaving a small space between each plant that the air may circulate freely and promote the drying. As the drying advances, the stalks may be brought closer to each other, so as to make room for others. Exclude all damp air possible, and be equally guarded against the admission of drying winds, in order that the operation may not be too precipitate, except in the rainy season, when, the sooner the drying is effected the better. When the middle stem is perfectly dry, the leaves may be stripped and put in bulk to sweat. This is done more conveniently in cloudy weather, when the leaves are moist and more easily handled. The leaves should be assorted according to their qualities, and their stems kept all in one direction in the bulk, which should be two or three feet high, and of a proportionate circumference. To guard against the leaves becoming overheated, and to equalize the fermentation or sweating, after the first twenty-four hours, place the outside leaves in the centre, and those of the centre to the outside of the bulk. By doing this once or twice, and taking care to exclude the air from it, and leaving it in this state for about forty days, the tobacco will acquire the odor and other qualities desired. For further information, see General Hernandez' letter in Volume II.

Inoculate trees of this year's growth; procure none but the best and choicest fruit, and the labor will not be lost. For full directions see Northern Calendar for August. If your cabbages are eaten up by caterpillars in this month or next, be not discouraged. Although it will retard their growth until the insects are turned to moths or butterflies, they will afterward take a fresh start and flourish well.

Transplant cauliflowers, savory, and cabbage-plants which were sowed in April, for winter use. Water them if the weather be dry, and the garden will soon be supplied. Plant out fig-trees, and shade their roots with wet straw—sow parsnips, carrots, radishes, and onions, in order to have a succession of these vegetables.

#### NORTHERN CALENDAR FOR AUGUST.

COMPLETE the haying and harvesting, and have all the ground intended for wheat and rye well prepared for the ensuing crop. Many excellent farmers in Massachusetts sow their rye on light lands, among their corn, harrowing it in two ways between the rows, and frequently adding clover also. This last is a good practice, as it matures the clover a year sooner; unless, as frequently happens, the drought of August and September kills the clover. A preference should, however, be given for that system of farming which enriches the soil to that degree, that an approximation to the corn-crop of Mr. Young may be realized, when there will be an effectual bar to the growth of rye, clover, or anything else but the main crop. Some pieces of after-math or rowen may now be cut, as it is excellent food for calves, lambs, and young colts, their masticators not yet having become adequate to grinding down the harder and more flinty grasses. It is questionable, however, whether it is policy to cut much rowen, as the advantage to the growth of the following season, is a sufficient compensation for its loss, unless its place be supplied with a good coat of ashes or compost. Look to your lightning-rods. There are more barns and stacks burnt in July and August from this cause, than in the other ten months. The gases now escaping from the fresh cut grass and grain, are excellent conductors for electricity, though not as good as an iron rod, and if you do not conduct it away by the latter, the former may conduct it into your mows and granaries, and thus the labors of the year be lost. Ruta-bagas are an exhausting crop, and it is well to supply the growing plant with a coating of ashes and plaster. By the first they are supplied with potash, which they take up largely, and, by the last, they are assisted in drawing nutriment from the atmosphere. Now is the time to save many of your seeds, a duty to be always attended to with the utmost caution and care. Save only the best, so that your future crops may be improving rather than deteriorating. Especially, save your own grass and clover-seeds. Timothy, orchard-grass, red-top, and clover, may be saved at one fourth the expense at which you can purchase them, and you may be sure of a good clean article, which you are not when you buy it elsewhere. The second growth of clover is suitable for seed, and this may be gathered by a machine somewhat like a fine rake, drawn by a horse, which pulls off the head while the stalk remains standing. To such as do not fear excessive seeding, and it would be well if they were more numerous, the seed thus collected, may be sown without thrashing and cleaning. Or it may be cut and thrashed. When rotation is desired with wheat, it is a better plan to turn in the whole crop when ripe, by which the soil is more benefited than by

turning in a green crop, and the seeding is thus effectually done without additional labor.

The housewife should be careful to select the herbs during this month, (and every other when in season,) as they are now mostly in blossom. They should be cut when the flower is fully matured, and dried in the shade, and when thoroughly cured, placed in tight paper bags, so as to preserve the peculiar aromatic principle from insensible escape. Many plants, by this neglect, lose their efficacy and fragrance before they are used. Medicine is frequently afforded by these at a cheaper rate and of a better quality, than can be got of the apothecary. Cut, dry, and secure hemp in stacks or ricks.

KITCHEN GARDEN.—Finish planting savoy and other cabbages for late autumn and winter use. In the early part of the month, spinach for fall use can be sown, and that for early spring use in the latter part of the month. To endure the winter well, the latter should be sown on dry gravelly ground. Turneps for autumn or winter use sow in the early part of the month. Plant now a crop of late celery, and continue to throw up the earth to the growing crops. Small salading can still be sown every week. If the weather be favorable, plant peas and kidney beans in the early part of the month. They may produce a good crop, although the chances are somewhat against it. Lettuce for fall use can be sown or transplanted from former seed-beds. Crops of melons and cucumbers keep particularly clean, and if the weather be very dry, moderately water them in the evening. Lima and Carolina beans hoe well, and all runners that trail upon the ground cut off; they only take sustenance from the bearing vines. Attend to the manure-heaps now, and keep them clear of weeds, which would otherwise ripen and grow in the ground on which the manure is placed the ensuing year.

FRUIT-GARDEN AND ORCHARD.—This month is the most suitable time for budding apples, pears, plums, cherries, nectarines, apricots, almonds, &c., and no farmer who wishes the luxuries of life at a cheap rate, should omit to select the choicest kinds of fruit-buds, and insert them in his own young stocks. We have the authority of Virgil and other old writers for saying, that it is best to inoculate at the joints where the bud is taken off, rather than between them, as is usual in modern practice. We intend to make the experiment this season on a few of our stocks. Keep the ground entirely clear among the seedlings and small trees.

FLOWER-GARDEN AND PLEASURE-GROUNDS.—Transplant from the seedling beds the various kinds of annual, biennial, and perennial flowers that were not transplanted last month. Plant your bulbs which may be out of the ground, such as crocuses, colchicums, narcissus, amaryllis, frittellaries, crown-imperials, snow-drops, lilies, irises, and martagons. Also take up, separate, and transplant the roots of pæonias, flag-irises, and other tuberous-rooted flowers, whose leaves are decayed. Suckers that have been thrown up from fibrous-rooted plants can be taken off and transplanted. Collect and transplant flowering plants from the woods and fields, removing them with a ball of earth, and cutting off their flowering stems if there are any. Water freely all newly-planted flower-roots, cut down the stems of those that have bloomed, loosen the earth about potted plants, clip hedges if omitted last month. Mow the lawn once a fortnight. Keep clean and in order, the gravel walks, flower-borders and shrubbery. Trim and tie up straggling plants, and inoculate all you wish to propagate in that way. Gather flower-seeds as they ripen, but let them remain in the pods until the season for sowing.



## FOREIGN AGRICULTURAL NEWS.

By the arrival of the *Hibernia* we are favored with our European journals to the 4th of July.

**MARKETS.**—*Ashes* have slightly declined and sales limited. *Cotton* has advanced altogether  $\frac{3}{4}$ d. per lb. the last month, and the prices are now considered steady. The import into Liverpool from January 1st to July 1st, amounted to 896,000 bales, against 1,150,000 same period last year; the stock on hand was about 926,000 bales, against 912,000 last year—an enormous quantity, and the largest ever known. We see that a crop of 2,500,000 bales is anticipated in the United States, which considering the great loss by the overflow of the southern rivers, strikes us as being a large estimate. *Flour and Grain* are dull. In *Provisions* of the finer qualities more was doing; in other things we see no change worth noting, except in *Turpentine*, which has undergone a serious decline. *Tallow*, a trifle higher.

*Money* abundant, and the rates of discount unchanged.

*American Stocks.* The transactions in these have been on a limited scale the past month and prices merely nominal. A better business was anticipated in the good stocks after the payment of the English dividends.

*The Weather* had been favorable, with considerable falls of rain latterly, and the wheat crop looked especially promising.

*Rise of Wool.*—Considerable of a rise in the prices of wool has taken place recently. In some instances it is selling from 30 to 45 per cent. higher than last year.

*Incendiary Fires* continue to an alarming extent in England; there had been 131 in the county of Suffolk alone since Christmas.

*Subsoil Plowing.*—Col. Scobell states that he had found it most valuable in many instances. In a farm of his at Buryan, it had almost worked miracles. It was a very foul estate, and by subsoil plowing, and rooting out the under weeds, his land and crops had been improved to a surprising degree. On the farm at Bortrea he subsoiled a portion of the land, leaving a strip in the middle not subsoiled. In the part subsoiled he had a good crop of oats, while on the portion not subsoiled he had very few.

*Save the Fæces.*—According to Boussingault, the solid excrements of man amount on an average to  $1\frac{1}{2}$  lb, daily, 5-4 lb. of urine, and  $\frac{1}{4}$  lb. of fæces, and both taken together will amount to 547 lbs. in one year, which contain 16-41 lbs. of nitrogen, a quantity sufficient to yield the nitrogen of 800 lbs. of wheat, rye, oats, or of 900 lbs. of barley.

*To Propagate Tender Roses by Cuttings.*—Let a bed of well-fermented stable-litter and leaves be made by the side of a north wall, and place a one or two-light frame on it so as to face the north. In this put about eight inches of leaf-mould that has been previously well soaked with water; then spread over all about three inches of sharp pit-sand, and make the whole firm and level. The back part of a span-roofed pit, running east and west, with a wall in the centre, is also a suitable place for the purpose. It should be filled to within a few inches of the glass with the same kind of material. In selecting the cuttings, tolerably weak wood of the present year's growth should be taken, if it is sufficiently ripened at the base or has made one full-formed leaf. Strip the cuttings with the finger and thumb, and smooth the base, reserving the detached portion of the parent bark; cut them close above the first leaf, and insert them in the sand, but not so thick that their leaves will overlap one another. When this is finished the bed should be watered, to settle the soil

about them, and they should have plenty of air for the first four days; but it ought to be lessened by degrees, so as to gradually inure them to a confined atmosphere. As the preservation of their leaves in a healthy state is essential to success, the bed may be formed and the cuttings put in on the same day, without waiting until the material becomes heated, as a thin covering of cellular tissue should be formed over the wounded end of the cutting before that takes place. In the third week the greater part will be rooted, and in the fourth they should be potted off into 60-sized pots, in a soil composed of leaf-mould and loam. They should be afterward removed into a damp frame or pit, without any water being given to their roots; but they may be slightly syringed over their leaves, and when they become well-rooted in the new soil, they may be hardened off and either shifted into larger-sized pots or planted out in a sheltered border, where they will make fine plants for next year.

*Cuttings.*—Nothing is better than silver-sand for striking cuttings in. If you use charcoal, it must be a very soft sort, and should be mixed with half its bulk of good soil.

*Utility of Toads.*—A person lately opened a toad in a wheat-field, and found 16 fresh beetles in its stomach, which the patient animal had probably snapped up while they attempted to cross the path. Toads are often kept with advantage on hot-beds for killing insects, and are among the gardener's best friends.

*Root Excretions.*—The most carefully conducted experiments show that excretions do not take place from roots.

*Guano a Preservative of Flowers.*—Those who are lovers of flowers, and delight in having them constantly in their rooms, may continue to keep them fresh for a very considerable time, by putting into the water a pinch of Peruvian guano, which is rendered immediately soluble and taken up by the cuttings. Guano is essentially different from all other manures: it possesses most of the constituents of plants, and contains a great portion of salt and other antiseptic, and yet the most fertilizing ingredients.

*Bone-Dust and Sulphuric Acid.*—Dissolve two or three bushels of fine bone-dust in 40 or 60 lbs. of sulphuric acid and apply this mixture to an acre of land, and it will generally produce as good a crop of turneps as 20 bushels of bone-dust.

*Indian Corn.*—In reference to Mr. Colman's remark upon Indian corn being well worthy of a trial as green food for cows, I feel convinced that this plant might be grown with much advantage for this purpose, even in the north of England, and much more in the south. Last year I grew about a score of plants of seed I brought from the north of Italy, which, from Mr. Colman's description of "the Canadian variety with small yellow ears," I should think were the same kind. These yielded so much excellent food for cows late in September, and they were so fond of it, eating cob half-ripe, leaves, and stalk, with the greatest relish; but I have this year sown all the seed I had, (two cobs,) and am only waiting for rain to transplant it. I should be very glad to induce others to try it in the south, and state the result in the autumn. It comes in for cow-food at a time when vetches are finished, when clover is much better eaten by sheep than cut again, and when it is wasteful to give turneps, as they are fast increasing in bulk and goodness.—*Gar. Chron.*

We often recommended Indian corn for soiling to the farmers of England when there, and have no doubt large quantities will eventually be exported for seed for this purpose. During the late dry season it would have grown remarkably well.

**Deanston Farm.**—We took the opportunity, while at Stirling, of visiting the farm of the celebrated Mr. Smith of Deanston. In the plantation adjoining the improved fields, the original state of the soil may be seen and compared with the same soil in its improved state. The contrast is very great. There are no open drains or ditches on the farm, nor open furrows or gaws of any kind. The plow used here has a moveable mould-board, which the plowman turns over at the land-end, then enters at the same place, the earth being always thrown to the same side.\* The fields are thus laid out quite level, no land lost with open furrows, and no time spent in going round ridges in turning. This system answers well with Mr. Smith, who reaps his crops with a reaping-machine, and does not require ridges as a guide in harvest. At the entrance to each field the ground is paved about four feet within the gate, and to the road outside, to prevent the ground being poached with carts or cattle. The division fences (thorn hedges) all run parallel. A pump-well is fixed at the corner of four fences, and supplies, by means of troughs in each adjoining corner, water to four fields at once. The drains have never, in a single instance, required to be opened and relaid. They are formed entirely of broken stones. This farm (we believe about 150 acres in extent) is an excellent example of the benefits of furrow-draining, combined with that part of the system which is Mr. Smith's own—subsoil plowing.

**Large Rhubarb.**—Mr. Digby exhibited six stalks at a late show weighing 17 lbs.

**Rooks Great Destroyers of Worms.**—An old rook was recently killed having in its crop 19 large grub-worms and 17 wire-worms. However annoying these birds may be at times, this must be a convincing proof that they are decided friends to the farmers.

**Novel Incubation.**—A few days since a sitting hen-pigeon belonging to Mr. Morriss, was killed by a cat. Mrs. Morriss, having been confined to her bed for some years past, had the eggs brought to her, and placed them carefully in bed with her. The eggs were hatched on Tuesday last, and the young birds are living.

**To Destroy Caterpillars on Gooseberries.**—Take six pounds of black-currant leaves and as many of elder-leaves, and boil them in 12 gallons of soft water, then take 14 pounds of hot lime and put it in 12 gallons of water; mix these altogether; wash the infected bushes, and after that is done take a little hot lime and lay at the root of each bush which has been washed, and thus complete the operation. By these means the caterpillars will be destroyed without the foliage being in the least hurt. For a preventive, sprinkling the bushes with tar-water prevents the fly or moth from settling on the plant to lay its eggs, but this must be done early in the spring, for if done after the fruit is set it will taste of tar.

Nature has furnished a remarkable insect which assists more in the destruction of the caterpillar, the *Ichneumon Manifestator*. They lay their eggs in the bodies of the caterpillars, or pupa, which are then hatched, and feed on the substance of the caterpillars. It behoves therefore every person who regards his garden, to preserve the above insect with care, which so materially protects its produce from one of its greatest and most pernicious enemies. Destruction by hand-picking should, if possible, commence with the parent insect, in this fly, or perfect state, before it has deposited its eggs, for the gathering of moths, butterflies, and large wasps, may save the gathering of thousands of caterpillars, and the droning of hundreds of wasps, pre-

cisely as preventing weeds from seeding a garden will soon eradicate them altogether.

**Test for Guano.**—Put 500 grains of guano into a basin, pour half a pint of warm water on it, stir it well, let it stand to clear, and then pour off the clear liquor into another basin. Then add half a pint of warm water to the residuum, and repeat the same process. Add a third half pint of warm water; and, after pursuing precisely the same course, filter the residuum through filtering-paper, and then dry and weigh it. If the guano be good, the residuum will weigh from 150 to 200 grains, which quantity, deducted from 500 grains (the quantity originally employed) will show the proportion soluble in warm water, which is considered an index of its value, as the greater proportion of soluble matter it contains, the more valuable it is as a manure.

**Guano.**—A cargo from Chincha or the Bug Islands, recently arrived at Berwick. The captain states that he loaded his vessel (about 420 tons) in 48 hours, the guano lying as thick as 300 feet; and that, had it not been for the trouble of stowing, it might have been done in four or five hours. The guano was conveyed to the hold of the vessel by means of canvass hose. The Bug Islands are three in number, about 15 miles off Pisco, in lat. 14 deg. 23 S., long. 76 deg. 1'. There is a rock in the centre of the middle island, which is half a mile in diameter. The captain visited only two of the islands, and states that the air was very strongly impregnated with ammonia. The coast of Peru abounds with the article. He describes labor in general to be plentiful, and to be had at about 3s. a day English money; but he had to wait a month for his turn, as there were 30 vessels there. The population is principally a mixed race of Spaniards and Peruvians, speaking Spanish, and in the present undisturbed state of the country fond of plunder.

**Substitute for Guano and Bones.**—Mr. Dinsdale advises the collection of human urine, giving to it about fourteen pounds of sulphate of magnesia (Epsom salts) to every hundred gallons, and adding lime in the state of hydrate (that is, slaked.) Such a mixture contains all the elements of bones and guano; and although more than one private empiric and public company have adopted the process, for profit, it still remains comparatively unknown. I calculate more than one hundred gallons per month are thrown away in every minor farm-house, while in towns there is great waste in this way.

**Alpacas in Scotland.**—We have seen a male and female of the Alpaca species at Craigbarnet, Lennoxton, Stirlingshire, which have been there for the last eight months, and they have stood the severe winter without injury, and we are assured are more hardy than our native sheep—they require less food, and could exist where sheep would die. There seems hardly to be any kind of food they will not eat—they eat turneps, hay, oats, and beans—they are more partial to meadow than rye-grass hay. These animals are now in the highest order and in the most perfect health—they are jet black, and follow their keeper like a dog, and are very elegant and interesting. The weight of the fleeces of last year was 17½ lbs. Their worthy owner is of opinion, when the navigation between us and South America is diminished as to length of time, which steam will most assuredly accomplish, thousands of Alpacas will be brought over—our hills will be covered with them, and they will become a source of great wealth and profit to the proprietors and farmers of the highland districts, for these animals will thrive upon that kind of coarse bent, which neither horse nor cow nor sheep will look at or touch.

\* This is like side-hill plowing.—Ed.



## Editor's Table.

**Forgetfulness.**—The following regular agricultural papers have taken the subjoined articles from us and omitted giving credit. We shall expect in their first issue after reception of this paper that they will correct the omission.

Massachusetts Plowman of June 22d, "On Driving Sheep."

Southern Planter, page 167—"Lime and Charcoal."

Southern Agriculturist, page 276—"Statistics of Fruit."

Mississippi Valley Farmer, p. 133, "Shepherd Dogs."

The Central N. Y. Farmer, p. 183, "Cure for Hoven."

page 187, "Cure for Withers Coming Down."

" 188, "Superior Dutch Cheese."

" " "To Make a Sheep own a Lamb."

This is certainly a very modest appropriation for a single number.

The Maine Farmer appropriates half a column of our "Foreign Agricultural News," and credits the same to an "English paper." This matter we make up condensed, at considerable expense and labor from a large file of foreign journals; and according to the rules which govern the editorial corps, we are as much entitled to credit for it as if coined originally in our own brain.

So much for the regular agricultural journals. As for the irregular ones, we consider them like the Cossack hordes of a Russian army—*born to plunder*; and all is, when we catch them in the act, we make no words about the matter, but immediately cut them from the exchange list.

**Saxony Merino Wool.**—When at Northampton, Mass., in June, Theodore Strong, Esq., of that place, furnished us with a few *unchosen* samples of the wool from his beautiful flock of Saxon Merino sheep. They show careful and high breeding, and we doubt whether the quality of the wool can be surpassed in the United States. The fleeces are of good size, and the sheep hardy of their breed. Mr. Strong would dispose of a draft from his flock at reasonable prices, to any one desirous of being engaged in the wool-growing business.

**Remedy for Films on the Eye.**—Put a tea-spoonful of molasses on the eye-ball. I have relieved oxen, horses, cows, and sheep, in this manner, and know no other equal to it.—*American Farmer*.

**Substances for Absorbing Urine.**—Dr. Jackson's direction in the New England Farmer is: "Take twenty measures of dry peat and one of ground gypsum, and mix them together. Place barrels half full of this mixture in places where urine may be collected, and it will be found that the salts and ammonia of many barrels of urine will be consolidated in this mixture, without giving the slightest odor, or being in any way offensive, for the salts are taken up, and the carbonate of ammonia, formed by decomposing urea, is immediately absorbed. This method of getting rid of a nuisance and of consolidating a valuable liquid manure, full of the most useful salts, ought to receive attention. A mixture of peat or swamp-muck and gypsum (plaster of Paris) will also serve to absorb all the disagreeable gases of vaults, which will be converted into fertilizing compounds with the sulphuric acid of the gypsum and the organic vegetable acids of the peat."

**To make Cornstalk Molasses.**—For a very simple recipe to produce molasses, we like that practised by Mr. Humphrey, of Michigan, which we believe was communicated to the Prairie Farmer, and is as follows:

"Take the cornstalks as soon as they have their growth, or as soon as the tassel begins to blossom, cut

them in pieces, boil them in a kettle for an hour or two, press out the juice any way you please and boil it down to a syrup."

**Bees Preserved from Moths.**—To prevent the moth laying its eggs under the hive, I have for the last several years cut a mortise in the bench about an inch deep and about two inches larger than the hive, and the hive is then set in this mortise, and the space of about one inch all around it is filled with mortar, then three-inch augur-holes are bored in the hive about two inches from the bench, for the egress and ingress of the bees, and a small augur-hole through the bottom of the bench to let off water should any get under the hive. I have near night watched the moths attempting to enter through these holes, and seen the bees chasing them away.—*Southern Planter*.

**Keep the Oil of Milk in your Cheese.**—Stephen Yates, who keeps a dairy in Herkimer county, state of New York, says that he discovered that when milk was scalded in the usual way of making cheese, an oil would rise on the top and run off into the whey. This oil every one knows adds very much to the rich flavor of the cheese and should be retained. He directed that the milk should not be scalded, and he found that he not only retained the oil which is aromatic, but also the cream which otherwise would pass into the whey. He kept his cheese in the press until the linen wrapper was no longer moist, and then rubbed often with hog's lard. We have offered the above statement by way of hint to our dairy people of Maine. We hope they will inquire into the facts and see if the above statement be correct. If it should be, it is certainly an object to attend to the suggestion of saving the oil and not let it run off into the whey-tub and thence into the pig's trough. The whey is the pig's perquisite, but it is not worth while to oil it for him at the expense of the cheese.—*Maine Farmer*.

**FAC SIMILIES OF WASHINGTON'S LETTERS ON AGRICULTURE**, addressed to SIR JOHN SINCLAIR, being an exact engraving from the originals. Published by Franklin Knight, Washington, D. C.—price \$2. Words can hardly express our gratification upon reception of this handsome quarto, containing a fac similitie of the writings on agriculture of the greatest and best man that the world ever saw. We revere Washington above all other men; the motto of our own periodical is taken from his writings; and his precepts and examples we endeavor to follow as far as our poor abilities will admit, in giving tone to its character. This work of Mr. Knight's is a beautiful quarto of 72 pages, embellished with a lithographic portrait of Washington, a view of the mansion at Mount Vernon, and the tomb. The letters are written in a bold, clear, beautiful hand, which we could wish to see more often imitated. Of the value of their contents Mr. K. thus justly expresses himself:—

These letters, in the hand-writing of the FATHER OF HIS COUNTRY, are on a subject of the deepest interest to every individual in our great and growing republic; and they are admirably calculated to impress the rising generation with the sentiment that agriculture is not only one of the most useful, but one of the most honorable pursuits of man. Washington recommended and urged the importance of establishing a *National Board of Agriculture*. In his speech on the opening of Congress, 5th Dec., 1796, he says, "It will not be doubted, that, with reference either to individual or national welfare, agriculture is of primary importance. In proportion as nations advance in population and other circumstances of maturity, this truth becomes more apparent, and renders the cultivation of the soil more and more an object of public patronage. Institutions for

promoting it grow up, supported by the public purse; and to what object can it be dedicated with greater propriety? Among the means which have been employed to this end, none have been attended with greater success than the establishment of boards, composed of proper characters, charged with collecting and diffusing information, and enabled by premiums, and small pecuniary aid, to encourage and assist a spirit of discovery and improvement. This species of establishment contributes doubly to the increase of improvement, by stimulating to enterprise and experiment, and by drawing to a common centre, the results everywhere of individual skill and observation, and spreading them thence over the whole nation. Experience accordingly has shown, that they are very cheap instruments of immense national benefits." With this subject, it is to be hoped, that Congress will take into consideration the founding of an institution, near the seat of government, for instruction in the science of agriculture, in connexion with its practical operations. The plan of such an institution has been suggested to the public by the subscriber, while acting as the Agent of the Washington Manual Labor School and Male Orphan Asylum Society, which received the commendation of distinguished gentlemen in every section of the Union. Of the practicability of this plan, scarcely a doubt is entertained by any one; and it is believed that an enlightened community will encourage the speedy establishment of this school. The publisher of these valuable memoirs of him who was "*First in war, first in peace, and first in the hearts of his countrymen*," feels confident that they will be highly appreciated by every American, and regarded as precious relics which all will desire to possess.

The above work would be a very appropriate premium indeed for distribution by our State and County Agricultural Societies, and we trust that each of them will give liberal orders for this purpose. We are confident that it would be highly prized by the recipients, and be the means of effecting a great good, as much as Washington is loved and revered by his countrymen. Subscriptions received by Saxton & Miles, 205 Broadway, New York.

**WEDGWOOD'S REVISED STATUTES OF THE UNITED STATES.**—W. B. Wedgwood, Esq., of this city has prepared a very valuable work from the Constitution and Laws of the United States, designed for the great body of the people. It contains a mass of information that no citizen should fail to know. Mr. Wedgwood has prepared similar works from the statutes of the several states. For sale by Saxton & Miles, 205 Broadway. Price 50 cents.

**EVERY MAN HIS OWN CATTLE DOCTOR.** By Youatt & Clater; revised and adapted to the United States, by John S. Skinner. Lea & Blanchard, Philadelphia—price 50 cents. This excellent little work was obligingly sent us three months ago, and we wrote a notice of it at the time; but whenever the paper was made up the printer carelessly left it out, till at last it was lost. Now some one has had the kindness to pocket the volume from our table. May be he was an editor, got lost accidentally in a brown study, and in appropriating our Messrs. Youatt, Clater, & Skinner to himself, thought it was only an article from the Agriculturist to be transferred to his own paper as original. We shall feel under obligation to the delinquent if he will return it, as we think highly of the little work in question, and that the possession of it may be worth ten times its price to every farmer in the land.

**CHEMISTRY AS EXEMPLIFYING THE WISDOM AND BENEFICENCE OF GOD.** By George Fownes. We are glad to see the noble and important science of chemis-

try treated in so exalted a light as is here done by Mr. Fownes. It is a Prize Essay, written for the Royal Institution of Great Britain, and we scarce need add one of high value. It is very handsomely reprinted, in a volume of 158 pages, by Wiley & Putnam of this city.

**THE NEW ENGLAND FRUIT-BOOK**, being a descriptive catalogue of the most valuable varieties of the Pear, Apple, Peach, Plum, and Cherry, for New England culture, with a colored engraving of the Bon Chretien Pear, and numerous cuts. By Robert Manning. Second edition enlarged by John M. Ives.—W. & S. B. Ives, Salem, Mass.; B. B. Mussey, Boston.

**THE NEW AMERICAN ORCHARDIST**; or an account of the most valuable varieties of Fruit of all climates, adapted to cultivation in the United States; with their history, modes of culture, management, uses, &c.: with an appendix, on Vegetables, Ornamental Trees, Shrubs, and Flowers; the agricultural resources of America, and on Silk, &c. By William Kenrick, seventh edition, enlarged and improved, with a supplement. Otis Broaders & Co., Boston, Mass.

The first of the above works contains 130 pages; the last 450. Both are handsomely got up, and are well known as treatises of the best authority on the subject of fruits. We have looked over them with attention, and are highly pleased with their contents; and now that fruit has become so important an object of culture, not only with the amateur gardener but with the farmer also, these new editions are issued at a very appropriate time and we trust that they will have a large sale. They certainly deserve it, and we announce their recent issue with particular gratification.

**THE NEW ENGLAND FARMER.** Since our last, this favorite periodical has commenced its 23d volume, and comes out in a handsome new dress. It is published at Boston, Mass., by Joseph Breck & Co., weekly, in a quarto form of 8 pages, price \$2 a year in advance. This excellent old paper is so well known that it needs little praise from such a junior as we are; and all we can say, is, the older it grows, the better it becomes; which if we can get any one to *think* the same of us, we shall be very glad indeed. We thank the Farmer for the elegant compliment it pays our correspondent, R. L. Allen, and think that not only *he* deserves it, but several others also who contribute to our columns, whom it might be invidious in us to mention. But why should it merely "*believe*" that *we* are "an experienced farmer." We have been more or less directly engaged in farming ever since we were a child big enough to toddle into a field, and we should feel quite mortified, and totally inadequate to the task of editing this journal, did we not *know* something of the *practice* as well as the *theory* of agriculture. If it were not for boasting, we should, like the late honest governor of old Massachusetts, to one who once doubted *him*, challenge the Farmer "to mow a field, or dig a crop of potatoes" against us by way of giving it a practical conviction of our knowledge of the farming art. Why, man, we can show you sickle-scars upon the *third* finger of our left hand, and axe scars upon our lower limbs and toes, besides sundry other things too numerous to mention, by way of proof if you need it, that we are quite a *veteran* in the *practice* of agriculture.

**THE VALLEY FARMER** is a fresh laborer in the field, published in Winchester, Va., by J. P. Bentley, every Tuesday, in a quarto form of 8 pages—price \$1 a year. It is a neat affair, and we hope it will receive sufficient encouragement to continue as a co-worker in the good cause in which we are embarked.

**TO CORRESPONDENTS.**—D. Stebbins, Charles Starr, Jr., T. Afleck, D. P. Gardner, and some others, are received and will appear next month.



REVIEW OF THE MARKET.

PRICES CURRENT IN NEW YORK, JULY 22, 1844.

ASHES, Pots, .....	per 100 lbs.	\$4 06	to	\$4 12
Pearls, .....	do.	4 37	"	4 44
BACON SIDES, Smoked, .....	per lb.	3½	"	4½
In pickle .....	do.	3	"	4
BALE ROPE .....	do.	6	"	9
BARK, Quercitron .....	per ton	23 00	"	24 00
BARLEY .....	per bush.	60	"	62
BEANS, White .....	do.	1 25	"	1 75
BEEF, Mess .....	per bbl.	5 00	"	7 00
Prime .....	do.	3 00	"	5 00
Smoked .....	per lb.	5	"	7
Rounds, in pickle .....	do.	3	"	5
BEEFWAX, Am. Yellow .....	do.	28	"	31
BOLT ROPE .....	do.	12	"	13
BRISTLES, American .....	do.	25	"	65
BUTTER, Table .....	do.	12	"	15
Shipping .....	do.	8	"	12
CANDLES, Mould, Tallow .....	do.	9	"	12
Sperm .....	do.	28	"	38
Stearic .....	do.	20	"	25
CHEESE .....	do.	3	"	7
CIDER BRANDY, Eastern .....	per gal.	42	"	44
Western .....	do.	35	"	40
CLOVER SEED .....	per lb.	7	"	8
COAL, Anthracite .....	2000 lbs.	4 25	"	5 25
Sidney and Pictou .....	per chal.	6 00	"	6 50
CORDAGE, American .....	per lb.	11	"	12
CORN, Northern .....	per bush.	50	"	51
Southern .....	do.	48	"	50
COTTON .....	per lb.	5	"	10
COTTON BAGGING, Amer. hemp per yard.	do.	16	"	18
American Flax .....	do.	16	"	17
FEATHERS .....	per lb.	27	"	30
FLAX, American .....	do.	8	"	8½
FLAX SEED, rough .....	per 7 bush.	9 00	"	9 75
clean .....	do.	10 00	"	10 50
FLOUR, Northern and Western .....	per bbl.	4 19	"	4 62
Fancy .....	do.	5 00	"	5 25
Southern .....	per bbl.	4 12	"	4 62
Richmond City Mills .....	do.	6 00	"	—
Rye .....	do.	2 75	"	3 12
HAMS, Smoked .....	per lb.	5	"	10
Pickled .....	do.	4	"	7
HAY .....	per 100 lbs.	40	"	45
HIDES, Dry Southern .....	per lb.	9	"	11
HEMP, Russia, clean .....	per ton.	175 00	"	180 00
American, water-rotted .....	do.	140 00	"	180 00
do dew-rotted .....	do.	90 00	"	140 00
HOPS .....	per lb.	7	"	9
HORNS .....	per 100	1 25	"	5 00
LARD .....	do.	5½	"	6½
LEAD .....	do.	3½	"	4
Sheet and bar .....	do.	4	"	4½
MEAL, Corn .....	per bbl.	2 44	"	2 62
Corn .....	per hhd.	11 75	"	12 00
MOLASSES, New Orleans .....	per gal.	28	"	30
MUSTARD, American .....	per lb.	16	"	31
OATS, Northern .....	per bush.	29	"	31
Southern .....	do.	26	"	27
OIL, Linseed, American .....	per gal.	73	"	75
Castor .....	do.	90	"	95
Lard .....	do.	55	"	60
OIL CAKE .....	per 100 lbs.	1 00	"	—
PEAS, Field .....	per bush.	1 25	"	—
PITCH .....	per bbl.	1 12½	"	1 37
PLASTER OF PARIS .....	per ton.	2 12	"	2 25
Ground, in bbls. of 350 lbs. ....	do.	1 12	"	—
PORK, Mess .....	per bbl.	8 25	"	10 00
Prime .....	do.	6 00	"	8 00
RICE .....	per 100 lbs.	3 00	"	3 50
ROSIN .....	per bbl.	58	"	75
RYE .....	per bush.	62	"	63
SALT .....	per sack	1 31	"	1 50
SHOULDERS, Smoked .....	per lb.	4	"	6
Pickled .....	do.	3	"	4
SPIRITS TURPENTINE, Southern .....	per gal.	34	"	35
SUGAR, New Orleans .....	per lb.	5	"	8
SUMAC, American .....	per ton	25 00	"	27 50
TALLOW .....	per lb.	6	"	7½
TAR .....	per bbl.	1 56	"	1 69
TIMOTHY SEED .....	per 7 bush.	10 50	"	12 00
TOBACCO .....	per lb.	2½	"	6½
TURPENTINE .....	per bbl.	2 15	"	2 37
WHEAT, Western .....	per bush.	88	"	95
Southern .....	do.	85	"	90
WHISKEY, American .....	per gal.	22	"	24
WOOL, Saxony .....	per lb.	45	"	55
Merino .....	do.	40	"	45
Half-blood .....	do.	35	"	40
Common .....	do.	25	"	30

New York Cattle Market—July 22.

At market, 1200 Beef Cattle, 600 from the north The number of Cows and Sheep we are unable to give on account of the death of the keeper of the Register.

PUICKS.—Beef Cattle—Were poorly sustained, and we can not quote higher than \$4 to \$5.75 as the price of best cattle.

Cows and Calves.—Sales at \$16 a \$27.

Sheep and Lambs—\$1.25 a \$3.75 for sheep, and \$1 25 a \$2.50 for lambs.

Hay—New is in good supply at 4 a 5 shillings per cwt., and old at 75 cents.

REMARKS.—Ashes continue in good demand for export; the late foreign advices, though slightly unfavorable, have had no effect upon our market. Cotton advanced ½ of a cent after the arrival of the Hibernia, but it seems doubtful whether this advance can be maintained in face of a reasonably coming crop, and the unprecedented large stock on hand in Europe. Export from the United States since 1st September, 1,540,401 bales; same time last year, 1,959,913; same time year before, 1,412,740. Flour is brisk with a moderate stock on hand. Meal dull. Wheat, Rye, and Corn in good demand; other kinds of grain little sought after. Hay brisk. American Hemp firm, with an increased inquiry. Molasses is advancing. Naval Stores the same. Provisions. There seems to be some speculative inquiry in regard to Beef, Pork, and Lard, and prices are well sustained, with the prospect of an advance. The stocks on hand at the west are found to be much lighter than were supposed. Rice, a short supply in market. Sugar, declining. Tallow very brisk. Tobacco more sought after. Wool in very good request indeed, and prices have advanced. They are now full 40 to 45 per cent. higher than last year at this time, and will pay the grower a handsome profit.

Money is worth from 4 to 6 per cent. according to the paper offered.

Stocks buoyant, without material change.

Business generally is commencing brisk in town, and promises to be a good one for the fall.

The weather. Over such a vast country as the United States, it is quite impossible to gather up and fuse into one mass all that relates to this interesting topic; we hope, therefore, it will not be expected of us. At the North, especially along the seaboard, they have suffered considerably from the drought, and the late hay crop is consequently lighter than was anticipated. Other things are looking well. In the middle states we have had genial showers, and complaints are partial, being confined to narrow localities. Hay has proved a good crop. Wheat is nearly all secured; and although the worm, weevil, fly, rust, and mildew have done more or less injury, still the crop will unquestionably turn out more than an average the country over. An uncommonly large breadth of land was sowed last autumn. Rye has been very heavy. Oats and Barley good as far as cut. Potatoes, Corn, Hemp, Tobacco, and Cotton are looking well. The continued floods of the Mississippi and its branches have greatly lessened the products of corn and cotton for the coming year. The loss in growth of the latter is estimated from 200,000 to 250,000 bales; probably the smallest amount supposed would be nearest the truth. Of corn, no one seems disposed to give us an estimate in bushels; \$9,000,000, however, would scarcely cover the whole loss of crops, cattle, &c., in the Mississippi valley by the late disastrous floods. The rise in the waters there we believe has scarcely been equalled within the memory of man, and we hope that all who can, will contribute their mite to repair the disasters of our fellow sufferers in that quarter.

GREAT SALE OF ELECTORAL SAXON SHEEP.

The undersigned will sell at vendue, the two flocks of pure Electoral Saxon Sheep, belonging to the estate of the late Henry D. Grove, as follows: 1st. That at Granger, Medina county, Ohio, consisting of about 400 sheep, on the 30th Sept., next, on the farm now occupied by them. 2d. The home flock, at his late residence in Hoosick, Rensselaer county, N. Y., consisting of about 350 sheep, on the 15th Oct., next. A rare opportunity is offered to those who may be anxious to improve the quality of their flocks. The following is the opinion of the distinguished manufacturer who has usually purchased Mr. Grove's wool, of the character of these flocks:—

"The purest blood in this country was introduced by the late Mr. Grove in his own flocks, the wool of which I have been familiar with since their importation in 1827. In point of fineness and admirable felting qualities, this wool is unsurpassed by any flock in this country, and the fleeces average about half a pound each more than any other I am acquainted with."

SAMUEL LAWRENCE.

Lowell, April 9. 1844.

The terms of the sales will be cash. Reference, Samuel Lawrence, Lowell, Mass., or the subscribers.

ELIZA W. GROVE, } Administrators.  
W. JOSLIN,  
S. A. COOK.

Buskirk's Bridge, N. Y., April 20, 1844.

## NEW YORK AGRICULTURAL INSTITUTE.

The great demand for scientific information in its bearings upon Agriculture, both among those already engaged in the art, and others entering upon it as a profession, has induced the subscriber to make arrangements for a full course of instruction during the ensuing winter. For this purpose a lecture-room and all necessary fixtures have been secured in THE UNIVERSITY OF NEW YORK.

Lectures and recitations on the sciences connected with AGRICULTURE, with applications to practice, will take place daily. Numerous opportunities will occur of examining the improved farms, market-gardens, nurseries, orchards, vineyards, and conservatories which abound near the city. Agricultural implements and other appliances of the art can be freely investigated; students can also attend PROF. DRAPER'S lectures on *Chemistry*; and PROF. FATTISON'S on *Anatomy and Physiology*.

Full instruction in the ANALYSIS of soils, the ashes of plants and saline manures forms another principal study of the course. The student will conduct these analytical inquiries himself, so as to become proficient.

The Institute opens on the 1st Monday of November, and closes on the 1st of March. Fee for the course on agriculture \$20. Analysis \$30. For both \$40. Board and lodging can be procured near the University at \$2.50 to \$3.00 per week.

The courses on Agriculture and Analysis will be undertaken by the subscriber, with such assistance in the latter as may be necessary.

D. P. GARDNER, M. D.,

Formerly Professor of Chemistry and Botany  
in Hampden Sidney College, Va., Consulting  
Chemist to the New York Farmers' Club, &c.

For further information, or a prospectus, address, post-paid, Dr. Gardner, 412 Fourth street.

Reference is made to the following gentlemen who formed a part of the class in Agriculture last winter:—

R. L. Pell,	Shepherd Knapp
J. Brinkerhoff,	H. Leroy Newbald,
Arch. Russell,	Gouverneur M. Wilkins,
Hugh Maxwell,	R. Jaffray.

## VALUABLE NEW WORKS,

### JUST IMPORTED.

Encyclopædia of Farm and Cottage Architecture,	- - -	\$16.00
Hutchinson's Treatise on Draining Land,	- - -	2.75
Greenwood's new method of Lifting Trees,	- - -	2.25
Stephens' Practical Irrigator and Drainer,	- - -	2.50
Whitley's Application of Geology to Agriculture,	- - -	2.50
Black's Practical Treatise on Breeding,	- - -	3.50
Rhain's Dictionary of the Farm,	- - -	3.00
Farming for Ladies, 1 vol.,	- - -	2.50
Falkner's Muck Manual, 1 vol.,	- - -	2.00
Gardener and Practical Florist, vol. 2,	- - -	3.50
Neil's Fruit, Flower, and Kitchen Gardener,	- - -	1.75
Stephens' Book of the Farm, part 1st,	- - -	1.25
Hunter on the Scotch Swing Plow,	- - -	1.50

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Single copies of books imported to order, per steamer, and a return of the same received in six weeks.

## BEMENT'S AMERICAN HOTEL,

No. 100 STATE STREET, ALBANY,

Is now open for the reception of company, having undergone a thorough repair and complete renovation from the cellar to the attic. It has been newly furnished throughout, and in quality of beds, cleanliness, and airy rooms, will now compare with any other establishment in the city.

In location, this house has many advantages, being situated in the centre, and on one of the most beautiful streets in the city; within a few moments' walk of the Eastern and Western Railroad Depots and the landing of the Steamboats; about midway between the Capitol, Public Offices and the Banks, Post-Office, and the business parts of the city; rendering it very convenient for the man of business, as well as the gentleman of leisure.

The subscriber places much reliance on the countenance and support of the AGRICULTURISTS throughout the Union, who may visit the city, and pledges himself to spare no exertions to render their stay agreeable, should they favor him with their company.

Three Hills Farm will be carried on as usual, under my own superintendence, by a careful manager, and the breeding and rearing of improved stock will be continued as heretofore.

C. N. BEMENT.

Albany, June, 1844.

### JUST PUBLISHED,

## COLMAN'S AGRICULTURAL TOUR.

The first part of Rev. Henry Colman's Report on European Agriculture and Rural Economy, is received. The work will be completed in ten numbers, at \$5.00, \$2.00 to be paid on the delivery of the first number.

SAXTON & MILES,  
205 Broadway.

## THE AMERICAN AGRICULTURIST.

Published Monthly, each number containing 32 pages, royal octavo.

TERMS—One Dollar per year in advance; single numbers, Ten Cents; three copies for Two Dollars; eight copies for Five Dollars.

Each number of the Agriculturist contains but One sheet, subject to newspaper postage only, which is one cent in the State, or within 100 miles of its publication, and one and a half cents, if over 100 miles, without the State.

ADVERTISEMENTS will be inserted at One Dollar, if not exceeding twelve lines, and in the same proportion, if exceeding that number.

Remit through Postmasters, as the law allows.

Editors of Newspapers noticing the numbers of this work monthly, or advertising it, will be furnished a copy gratis, upon sending such notice to this Office.

Volume I. and II. of THE AMERICAN AGRICULTURIST, with tables of contents complete, for sale at \$1.00 each; elegantly bound in cloth, \$1.25. These are handsome, tasteful books, and make very desirable premiums for distribution with Agricultural Societies, and should also find place in all our District School Libraries. They constitute the best and most complete treatise on American farming, stock-breeding, and horticulture, extant. When several copies are ordered, a liberal discount will be made.

Communications for publication, to be directed to the Editor; and all private letters, or those on business disconnected with the paper, should be addressed, simply, A. B. Allen, 205 Broadway, New York.

## ICHABOE GUANO.

The subscribers have received by a late arrival from Liverpool, a few hundred weight of this superior guano, pure as imported from Africa, being taken direct out of the ship Clydesdale, arrived at Liverpool docks. A writer in the London Gardener's Gazette, June 8, 1844, remarks: "The competition for this guano in the colonial market was so great, that two cargoes were sold in about twenty minutes. The desire for Ichaboe guano has arisen from the fact that all the eminent chemists who have analyzed it, found it to possess the fertilizing properties in the highest degree: and the result of its application by practical agriculturists have proved the correctness of their analysis. This island (Ichaboe) on the western coast of Africa, which three years since was unknown, is about a mile and a half in circumference, and is deeply covered with guano, the deposit of sea-birds that have for ages remained undisturbed in their possession."

Price \$6 per hundred pounds, or \$1 for 16 pounds, (which is sufficient for 40 gallons of water,) put up in neat boxes; also 7 lb. boxes for 50 cents. It should be applied in a liquid state, and immediately after a rain. A liberal watering with this liquid once a fortnight is sufficient for vegetables, Indian corn, potatoes and turneps, and once a week for flowers in pots, and dahlias, tuberoses, and chrysanthemums.

Also, the best of Artificial Guano, made from an exact analysis of the real, in boxes of 20 lbs., at \$1 per box; or 10 lbs. for 50 cts. 3t.

J. M. THORBURN & CO., 15 John st.

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